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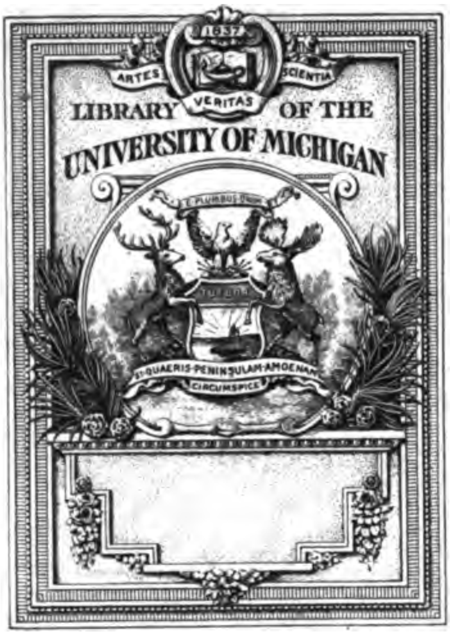
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ORIGINAL LECTURES.

FREQUENT MISCARRIAGE; ITS PATHOLOGY AND TREATMENT.

A Clinical Lecture delivered at the Long Island College Hospital,

BY A. J. C. SKENE, M.D.,
PROFESSOR OF GYNECOLOGY AND VISITING PHYSICIAN TO THE HOSPITAL.

(Reported by Edward Develin, M.D.)

GENTLEMEN: To-day I intend to call your attention to the subject of frequent miscarriage; its pathology and treatment, illustrating my remarks upon this most important branch with such cases as have presented themselves here to-day for treatment.

Case I.—The patient now before you is thirty-five years of age, and has been married nineteen years. She has had no children, but has had ten miscarriages, the last one occurring a year and a half ago. Menstruation is now irregular. Our duty is to ascertain the cause of these frequent miscarriages; and in this case I have every reason to believe that it is due to the general condition of the patient. I find nothing abnormal about the vaginal portion of the uterus or the vagina itself; neither does the body of the uterus appear to be diseased or deformed.

Whenever we see this disposition to miscarry, not due to malpractice by the patient or an abortionist, I mean when they arise from natural causes, we are always sure of one thing, and that is: that there is some disease of the uterus or some specific constitutional disease. In such cases I am always suspicious of syphilis. Frequent miscarrying points strongly to constitutional disease, and that is the reason why I have just asked the patient a few questions in order that I may ascertain if she has had any evidences of syphilis. I rather think she has; I had an opportunity of seeing her before I presented her to you, and her skin looks somewhat like that of one who might be syphilitic; at all events, it lies between this constitutional condition and disease of the uterus, and as the uterus is all right we may exclude that cause.

We read about the habit of miscarrying, and in this case we have had ten miscarriages, which suggests that it has become a habit; but I hardly believe the habit is so easily established as the literature upon this subject would lead us to believe. I think in the cases which habitually occur there is some disease of the uterus, such as laceration of the cervix, bilateral and high up. In these cases pregnancy seldom occurs, and when it does a miscarriage is the result usually.

Now from the history of this case we learn that she has no marked disease of the uterus. Having menstruated irregularly, she may have some corporeal endometritis; it cannot be marked, however, or she would not have become pregnant. I am, therefore, the more inclined to think that the difficulty is syphilitic. If this be our suspicion, and the evidence given by the patient is not sufficient for a diagnosis, our inquiries are then directed to the husband, and the chances are that you would be likely to find the cause in him.

Now these cases respond very well to the anti-syphilitic treatment, and in time a living child may be borne. It is a curious fact that this disease is self-limited to a great extent, at least, in transmission; and hence in time these miscarriages are stopped and a family is raised. In relation to this matter, one of the most important observations was made by Dr. Reade, and set forth in a paper which he read before the Kings County Medical Society. It was an elaborate paper showing that the longer the time that elapsed from the contraction of the disease until the fecundation of the ovum, the less chance was there of the transmission of this syphilitic taint. In those who have the misfortune to conceive soon after an attack of syphilis, the ovum dies in utero; at the next conception the ovum may perhaps be carried a little longer, and so on until finally a child is born showing little of the syphilitic affection. Dr. Reade also stated that the greater the lapse of time after the birth of the child, until the external manifestations of the disease, the more readily did it respond to treatment. These are important points to bear in mind.

In this case I shall take it for granted that there is some specific difficulty, and shall therefore direct her to be placed upon alterative treatment.

Now let me suppose a case: A lady has had a number of miscarriages and has been treated by her family physician, and he has failed to carry her along to the end of gestation. After a time she begins to lose faith in his treatment, and calls in some eminent physician, and he fails also; finally a third medical man is called in, and he understanding the case, as in like manner did the previous gentlemen, continues the anti-syphilitic treatment and she finally has a living child. Now this gives the last doctor a reputation at once, and yet he did not make it altogether by his skill as a physician, but simply because the transmission of the specific taint was nearing its close; and hence she was becoming more competent to carry the child the full time. Such a case came under my observation about ten years ago, and I attended the lady during her confinement, and at once placed the child upon specific treatment. I believe the child is living to this present day. The result of this was that I have since had several such cases, but sometimes I fail, just as these other gentlemen did, in recent cases. You can thus see how important it is to bear in mind these points, and by this means hold out hopes to your patient of her ultimately raising a family.

Case II.—This patient is thirty-five years of age; has been married ten years; has had three children and three miscarriages; one miscarriage occurring at three months, one at four months, and one about seven months. I supposed that these miscarriages resulted from laceration of the cervix uteri, as they are very prone to occur from that cause, but I am now informed that since her miscarriages she has borne a living child, therefore the miscarriages must be due to some other cause.

Upon examination I find the uterus to be, as near as I can judge, about three and a quarter inches in length, from the junction of the vagina and cervix. I show you here a double laceration of the cervix, extending up to the vaginal insertion to which we just now referred. The uterus is retroverted, and this displacement, taken together with the laceration of the cervix, is sufficient to account for her miscarriages. I have already spoken of the relation of lacerations of the cervix uteri to miscarriages, and I need only say that retroversion, when well marked, is equally capable of arresting gestation. Fortunately, we can remove this cause of abortion by restoring the uterus to its normal position, and retaining it there by a pessary until the uterus is sufficiently enlarged to rise out of the true pelvis.

A pessary was introduced some time ago for the purpose of sustaining the uterus in position. I drew your attention to the position of this pessary previous to its removal, namely, that it was projecting from the introitus. This pessary was introduced in a New York hospital, and is the retroversion pessary of Dr. Thomas, one that I was in the habit of using quite frequently, but I object to the shape of this one; the posterior bar is made too large, and the whole instrument has too much of a wedge-shape. In this pessary the wedge comes almost to a sharp point. While I believe in the wedge-shape pessary introduced by Dr. Albert Smith, of Philadelphia, this one is too sharply tapering. This broad bar which you see here, and upon which the pressure is brought to bear, has pushed the instrument down to the introitus. Now I know that this pessary has been out of position for weeks, although I have never seen the patient until this hour, for I find upon the lower portion of the pessary an incrustation of the salts of urine, showing that the patient has been urinating upon it. This could not occur if the pessary was in proper position unless she had laceration of the urethra. So, then, this instrument, while it has done much good, is not wide enough to sustain the uterus and retain the position in which it was placed in the vagina. That is one of the reasons why I shall give it up. Now do not understand me to condemn this shape of pessary by any means, for it certainly has its advantages. The idea in its design by Dr. Thomas was good, but it has been spoiled in making. Though an instrument may be sent to the instrument maker with full instructions as to its mechanism, the exact shape, and its uses, he will oftentimes fail to follow your directions explicitly. This is, then, no fault of the gentleman who has devised the instrument, although in many cases it leads to an unfair criticism of the instrument by those who have been unfortunate enough to purchase one of these badly made articles. This one has too much of a wedge-shape and is too long, and hence is constantly slipping down. The reason the posterior bar is made large is to prevent its being imbedded in the vaginal walls. This instrument was designed for the purpose of keeping the uterus in position after it has been replaced there, and it will do this if the instrument be not too narrow. There are, however, as I have previously mentioned, two methods of restoring the uterus to its normal position—we may restore the uterus partially and gradually secure an improved position of the organ, until finally it resumes its normal relations with surrounding parts; or we may restore the uterus at once and keep it in place. The advantage of this retroversion pessary, when properly made, is that you can make more pressure, and compel the organ to stay in position, better than any other instrument that I have used. I however prefer the gradual method rather than the rapid method. There is here another point I would call your attention to—this pessary has done this woman good service although it is somewhat too long. She states that it has afforded her great relief, and asks that she be permitted to wear it again. So when a patient feels so much comfort from the use of any instrument, you may know that it is effecting its object; by this you can be guided in your future treatment of the case. We can improve upon this instrument by using a wider one, which will accomplish the object and at the same time not annoy the patient by projecting from the vulva.

Case III.—This patient is thirty-seven years of age, and has been married nine years; she has two children living, and has had three miscarriages, the last one occurring ten days ago. She has had amenorrhœa for the past three or four months, and, of course, had metrorrhagia when she miscarried; the flow, she informs me, stopped yesterday.

The case is interesting because of the uterine hemorrhage which is so liable to continue after miscarriage, especially when the emptying of the uterus has not been complete. I think the rule is that in a miscarriage, if the ovum be cast off complete, that will be the end of it, if you treat your patient with rest and care. But if the ovum becomes broken, and part of it remains, no matter how small it may be, there is likely to be a little oozing for a long time; perhaps it has been so in this case, and had this hemorrhage continued, we would have emptied the uterus, and endeavored to relieve her. On examination, I find the uterus is larger than normal, and it is soft—it is not well contracted.

In this case we will advise rest, a little ergot, and the application of the warm-water douche—this will induce the uterus to return to its normal dimensions.

Case IV.—Here is, I believe, a most singular case, although I have not had time fully to look it over. The patient is married, and is aged twenty-five years. She informs me that for the past three months her menses have been very irregular, and at times hemorrhage occurs. She gives no very clear history, but there is a peculiarity about this hemorrhage which I especially desire you to notice; it is this, that when she lies down she suffers more from the hemorrhage, but when she assumes the erect position the hemorrhage ceases. This is somewhat peculiar, and is almost pathognomonic of one condition. I will, however, examine the uterus before I commit myself to a diagnosis. On examination, I find the uterus to be about five inches in length, as near as I can measure; I find it is perfectly uniform in size; it is pear-shaped, and differs only from the normal non-pregnant uterus in that it is enlarged. I also find it to be quite elastic to the touch; it does not present that dense structure so perceptible in fibroids; here it has a soft, doughy feeling. Her menstruation for the last three months has been so irregular that the probability is that she has not menstruated at all, but has been suffering from metrorrhagia and that peculiar hemorrhage when she lies down.

Now, without dwelling on a case of this kind, I will say that I believe it is due to a retarded or delayed miscarriage. I believe that she has been pregnant, and that the ovum has died without being expelled; perhaps a part of the ovum may be attached and retain its vitality. Now, the contents of the uterus when the patient assumes the erect position act as a valve at the os internum, but when she lies down it falls away from the os and a hemorrhage takes place, the blood accumulating in the uterus while she is standing or walking about. I have seen a sufficient number of these cases to be almost positive in my diagnosis, and in addition I have the advantage in that Dr. Cushing has examined the patient and has come to the same conclusion. I know of no other condition in which that occurs, although there is a case reported by Dr. J. Marion Sims in which somewhat similar symptoms were found, resulting from a polypus or something of that nature. He, however, does not mention anything relating to the effect of the erect or the recumbent position upon the hemorrhage.

In one case that came under my care the ovum died at four months, and at the seventh month I removed it; the patient had hemorrhage precisely in the same manner as this one. At the time I emptied the uterus the temperature was 105°, and the pulse one hundred and three. As soon as the uterus was emptied the temperature came down at once, and the patient is alive and well to-day. Dr. C. H. Smith brought to my notice a case of this kind, in which the patient was often obliged to sit up in bed during the night to stop the bleeding. I desire you to bear in mind this peculiar point in the clinical history of these cases, it is a valuable and important lesson. We will see what the uterus contains, and report to you the result.

ORIGINAL ARTICLES.

A CONTRIBUTION TO THE HISTORY OF LIGATION OF THE COMMON FEMORAL ARTERY.[1]

By L. McLane Tiffany, M.A., M.D.,
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Last summer it was my fortune to have to deal with a large aneurism of the femoral, extending upwards to within two or three inches of Poupart's ligament, and while pressure, with rest, was being tried to effect a cure, I very naturally turned to the recorded experience of others, with the intention of tying the common femoral artery, if pressure failed. So the first author my hand lighted upon said that, while he preferred to tie the external iliac rather than the common femoral for aneurism high in the thigh, yet he was not prepared to condemn a further trial of the common femoral. My next author was more favorable, for by him the common femoral was preferred to the external iliac. My third author condemned the operation unhesitatingly as not fit to be done, and from the state of depression in which I now was, nothing aroused me until I put my eye on author No. 4, who says that it is the duty of the surgeon to tie the common femoral in preference to the external iliac. I therefore, with care, returned my four advisers to their shelves, and tied, according to my original intention, the common femoral of my patient, who recovered with rapidity both from his aneurism and his doctor.

Case.—J. W., aged fifty-eight years, male, mulatto, tall, rather spare, noticed in March, 1883, a lump in the left groin. When first discovered, the enlargement was about, so he described it, the size of a pullet's egg, probably an inch and a half by two and one-half inches. During the month of May, increase was rapid. June 17 of the same year, I first saw the patient. The enlargement at that time was oval, extending from within two and one-half inches of Poupart's ligament to within five inches of the upper border of the patella. The circumference of the affected thigh, the left, measured over the most prominent portion of the tumor, exceeded by five inches the circumference of the right taken at a corresponding place. There was decided œdema of the limb below the tumor; pulsation was distensile and marked; pressure upon the common femoral abolished pulsation, but did not bring about entire subsidence of the swelling; aneurismal bruit distinct; pain great; the most comfortable position being with the limb semiflexed and everted. The continuance of this position for a certain time had caused an incipient bedsore upon the outer side of the foot and little toe. There was no history of syphilis. Aneurism of superficial femoral was evident. Compression was commenced June 26, with two horseshoe tourniquets, having small pads so adjusted as to press upon the femoral between Poupart's ligaments and the aneurism; the tourniquets were, of course, tightened and relaxed alternately. Morphine was given q. s. At the end of ten days but little good had resulted from the use of tourniquets, although complete as well as partial stoppage of the blood-current had been brought about at different times. Veratrum viride was given also, and the pulse by its means kept down.

July 14 I tied the common femoral half an inch below Poupart's ligament with silk. Pulsation was easily felt through the skin, and this, together with subcutaneous connective tissue, being divided, the artery came into view. By pressing the vessel from one side to the other, I was able to feel that no large branch came from it within half an inch or an inch of the place to be tied. One very small vessel was given off just where exposed, so this was tied in addition to the main trunk. Pulsation in the aneurism at once ceased, and did not recur. One end of the ligature was left hanging from the wound; iodoform and absorbent cotton constituted the dressing. Convalescence was without interruption, and calls for no comment. The external border of the foot and little toe, which were denuded before the operation by pressure, became the site of a troublesome ulceration, and healed but slowly, the toe sloughing off. The aneurism consolidated, became very gradually smaller, and was, when last seen, represented by a firm lump, causing no inconvenience.

Fortified by a successful case, I was of course prepared to criticise the opinions of others, and I venture to say that there are few operations in regard to which so many divergent opinions are expressed by competent men. From unqualified condemnation to unqualified praise there is an easy gradation of advice and opinion not only from those who have neither performed nor seen the operation, which need cause no surprise, but singularly enough even from those who have themselves operated. The Irish surgeons approve of the operation, notably Porter, who gives three cases with recovery, and so well describes the anatomy of the locality, etc., as to justify the expression occasionally used—"Porter's operation."[1] English surgeons, with scarcely an exception, do not favor the operation. Macnamara favors the operation and reports cured cases[2] including one of his own. Erichsen is strong in opposition[3]. Holmes[4] approves the measure rather than to tie the external iliac, while Bryant[5] requires more experience before recommending it. Pemberton[6] is the most pronounced in favor of the measure of all surgeons who have written. American surgeons, with but one brilliant exception consider the operation injudicious and inexpedient. Mott[7] is the exception, and he says, "some surgeons have doubted the propriety of tying the artery between the giving off of the profunda and the origin of the epigastric. We have, however, several times put a ligature here, and in every instance with success." This is very strong endorsement.

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[1] Read before the American Surgical Association April 30, 1884.

A foot-note on the same page states that since the above was written, he—Mott—has again tied the common femoral with success. It is greatly to be regretted that the matter is left in so crude a condition; no particulars are given about age, sex, cause, manner of operating, etc. The only seeming excuse for such omissions in so careful a writer being, that there could be in Mott's mind no doubt as to the propriety of the procedure and discussion therefore was needless.

Continental surgeons are generally not in favor of the operation. The most exhaustive article with which I am acquainted is by Rabe,[8] with an analysis of one hundred and seventy-eight ligations of the common femoral for all causes. In this elaborate summary of our knowledge up to the time of its publication, 1875, a comparison is instituted between ligations of the large arteries of the lower extremity in regard to secondary hemorrhage and gangrene as affecting the general mortality, the outcome being not favorable for the common femoral ligation. Unfortunately, the Irish cases have escaped due credit, Porter[9] being omitted, as also Smyly. Laugier[10] is entirely omitted with two successful cases. An unsuccessful case by Gelston[11] is likewise omitted.

For aneurism, the vessel under discussion has been tied but a very few times, the enormous majority of ligations being for hemorrhage following traumatism, and Rabe, after collecting and analyzing 540 ligations of the superficial femoral, 178 of the common femoral, 207 of the external iliac, and 27 of the popliteal, for all causes, makes use of the following language: "It is necessary to add that neither of these ligations, in case of traumatic hemorrhage, performed at a distance, prevents more surely the one than the other the recurrence of hemorrhage," a sentence which conveys the highest compliment to the teachings and opinions of Guthrie, that most competent surgeon. Laugier's cases, already referred to, were both wounds of the artery, in which ligatures were applied above and below the seat of injury. Both patients recovered. Rabe disapproves of tying the common femoral, advising that either the superficial femoral or the external iliac should be secured. Turretta,[1] in Italy, after the recovery of a traumatic case in which, having tied the common femoral above the wound, hemorrhage occurred, and he tied the external iliac, comes to the same conclusion as Rabe. If he had tied the vessel above and below the wound, his conclusion, as well as his practice, would have been better.

In the History of the War, Part 3, Surg. Vol., p. 789, will be found Table CXLI., being a summary of 374 ligations of the femoral artery. A certain number of these refer to the common femoral. I append a brief history of each case, for which I am indebted to the extreme courtesy and kindness of the officials of the Library of the Surgeon-General's Office, not only in affording me every possible facility to investigate, but also in making transcripts of documents beyond my reach.

For traumatic aneurism there is recorded one case, No. XIII., of the table referred to.

Injury to femoral in August, 1864; no primary hemorrhage; aneurismal sac formed; ligation of femoral above profunda, September 1, 1864; ligature separated ninth day; recovery.

For secondary hemorrhage after amputation there are four cases, with two recoveries.

CASE XVII.—Fracture of knee-joint, October 27, 1864; amputation, thigh, October 28; *gangrene* in stump three weeks after operation; secondary hemorrhage on third day; femoral ligated just above profunda; recovery.

CASE XXI.—Fracture of knee-joint, March 31, 1865; amputation, thigh, same day; hemorrhage from profunda, April 4; same day ligation of femoral above profunda; recovery.

CASE CCLXV.—Wound of thigh, August 29, 1862; amputation, same day; hemorrhages, September 5, 6, 7; ligation of femoral above profunda, September 7; hemorrhage recurred September 8; died September 12, 1862.

CASE CCCLXV.—Fracture of femur, May 5, 1864; amputation of thigh, June 2; hemorrhage, June 5, and femoral artery ligated above profunda on the same day; died, June 5, of exhaustion.

For hemorrhage secondary after a wound there are recorded thirteen instances, two of which recovered. This list includes two cases in which the vessel was ligated three-quarters of an inch below Poupart's ligament, and, therefore, presumptively above the profunda, although not stated in so many words.

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[1] Dub. Quart. Journ. Med. Sci., Nov. 1860.
[2] Brit. Med. Journ., Oct. 1867.
[3] Am. Ed., 1878, vol. ii. p. 160.
[4] Packard's Ed., vol. ii. p. 440.
[5] Surgery, 2d Am. Ed., p. 352.
[6] Brit. Med. Journ., Oct. 30, 1875.
[7] Mott's Velpeau, vol. ii. p. 301.
[8] Deut. Zeits. f. Chir. V. Nos. 2 und 3 March, 1875.
[9] Loc. cit.
[10] Journ. de Méd. Chem. and Phar., Montpel., 1803, p. 135.
[11] Med. Press and Circular, Sept. 2, 1868.

[1] Il Morgagni, 1877, p. 166.

Case XXIV.—Wound of thigh, May 16, 1864; secondary hemorrhage, and femoral ligated above profunda, May 29; recovered.

Case LXXXIX.—Wound of thigh, April 2, 1865; hemorrhage from branch of femoral, April 11; ligation of femoral above profunda in Scarpa's space, April 12; recovery.

Case CXL.—Wound of thigh, femoral injured, April 1, 1865; April 10, hemorrhage from femoral and descending branch of profunda; femoral ligated on the same day above profunda; *gangrene* of entire limb; died April 19, 1865.

Case CLXXXIII.—Fracture of femur, May 28, 1864; hemorrhage from profunda, June 19; ligation on same day of femoral just below Poupart's ligament, and above probable origin of profunda; hemorrhage recurred June 20 and 21; wound plugged with persulphate of iron; died, June 25, of exhaustion, following secondary hemorrhage.

Case CXC.—Wound of thigh, June 1, 1864; June 8, hemorrhage from deep branches of profunda; profunda ligated one inch below origin; bleeding continuing, the femoral was ligated two inches above the profunda; death, June 15.

Case CCXI.—Wound of thigh, March 16, 1865; hemorrhage, April 3, from profunda; profunda ligated same day; April 5, femoral ligated just below Poupart's ligament; *gangrene;* death, April 8, 1865, of gangrene.

Case CCXIII.—Wound of thigh, May 15, 1864; *gangrene* of wounded parts; hemorrhage, May 28, from profunda; femoral ligated same day, one-half inch above profunda; died of gangrene, June 2, 1864.

Case CCXVII.—Wound of thigh, May 10, 1864; hemorrhage from profunda, May 19; ligation of profunda, same day; hemorrhage recurred May 22; femoral ligated above profunda, May 22; hemorrhage recurred thirty-six hours after—arrested by compression; died May 26, 1864.

Case CCXIX.—Wound of thigh, June 9, 1864, ball lodging close to femoral; hemorrhage from femoral, July 5; ligation of femoral above profunda on same day; ligature came away July 11; hemorrhage recurred at four different times; died of chronic diarrhœa, September 25, 1864.

Case CCLXIX.—Wound of thigh, May 18, 1863; great primary hemorrhage (probably ceased spontaneously); June 3, hemorrhage from profunda; ligation of femoral above profunda same day; hemorrhage recurred from branches of internal iliac; death, June 10, 1863, from exhaustion, following hemorrhage.

Case CCCVII.—Wound of hip, May 12, 1864; hemorrhage, May 28 and 29, from branch of profunda or pudic artery; femoral ligated May 29, three-fourths of an inch below Poupart's ligament; hemorrhage recurred fifty-six hours after operation; death, June 2, from secondary hemorrhage.

Case CCCXXXIV.—Wound of thigh, May 18, 1864; hemorrhage from circumflex, May 30; June 2, femoral ligated three-fourths of an inch below Poupart's ligament; hemorrhage recurred three hours after operation; died from exhaustion, June 5, 1864.

Case CCCLIII.—Fracture of femur, May 10, 1864; hemorrhage from femoral, June 7; femoral ligated above profunda, June 9; died, June 17, 1864.

There are certain other cases of the table in which it is likely that the common femoral was tied, but in the absence of specific statement to that effect, and in the absence of knowledge concerning the exact site of the ligature, they must be omitted here.

Gangrene is recorded four times—Cases XXVII., CXL., CCXI., CCXIII.—but no distinction is made between the variety resulting from obstruction to the circulation and that resulting from hospital infection. As the seat of hemorrhage is but rarely stated, whether from the proximal or distal side of the wound, analysis of the cases is not possible. From the large mortality, however, it may be safely inferred that to tie the common femoral for a distal wound, rather than to tie both ends of the vessel in the wound, is to be avoided if possible, for it exposes the patient to needless risk.

As germane to the subject of bleeding from the lower end of a wounded artery, Gelston's[1] case may be cited: The vessel was tied in Porter's canal, July 2d, for aneurism; secondary hemorrhage July 17th, and ligation of external iliac; bleeding occurred from the distal end of the old wound July 19th; the wound was plugged; bleeding recurred several times; death August 1st. I cannot avoid thinking that for traumatic cause this vessel (common femoral), perhaps, has been tied in consequence of its extremely superficial position, and the facility with which the operation is done, as compared with the difficulty of finding a bleeding artery and putting a string on it in a sloughy or deep wound.

For causes not traumatic, elephantiasis, and aneurism, how about tying the common femoral? Rabe gives ten cases in which the vessel was secured for the former cause, elephantiasis, with one death and nine recoveries. The same author gives twelve cases of ligation for spontaneous aneurism, with six recoveries and a like number of deaths; but cases by Porter,[2] Smyly,[3] Lister,[4] Gelston,[5] and several cases by Mott, probably, are not to be found in his list. Looking at the unfavorable cases, it appears that death is generally brought about by hemorrhage, whether from the proximal or distal end of the artery, is, however, but exceptionally stated. I find an explanation for this secondary hemorrhage in the variable anatomy of the vessel, sometimes being extremely short, sometimes long, according as the profunda commences close to, or at a distance from, Poupart's ligament. The length usually ascribed to the common femoral is from one to two inches, probably more often one than two. A fair average would be one and a quarter inch; and, inasmuch as the separation of a ligature from a tied artery is generally attended with hemorrhage if a large branch be close at hand, the amount of working space afforded the surgeon does not appear excessive, and might be contracted; it must, however, be remembered that variation in origin is not the prerogative of the deep femoral only, but that the epigastric and circumflex ilii are given off by the external iliac at a variable distance from Poupart's ligament.

When, therefore, the common femoral is under consideration with a view to ligation, and the origin of the profunda discussed, due regard must be paid to the possible extent of external iliac without branches above Poupart's ligament; and, should the commencement of the profunda be exposed, the operator will apply the ligature above or below, or tie both vessels according as his judgment may direct after careful examination. Published cases prove that these considerations are not theoretical. Pemberton tied, as he thought, the common femoral, and the patient recovered, death occurring a certain time afterwards from causes foreign to the operation. He was able to examine the parts, and found that he had really tied the superficial femoral, for the profunda arose as high as Poupart's ligament.

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[1] Loc. cit.
[2] Loc. cit.
[3] Loc. cit.
[4] Address before Brit. Med. Assoc. 1871.
[5] Loc. cit.

Collis, quoted by Macnamara, thought he tied the common femoral; death took place from secondary hemorrhage, and the profunda was found on inspection to be given off immediately above the ligature. The string had been put around the superficial femoral.

In the table already referred to (Medical and Surgical History of War), is a somewhat similar case, the particulars of which are as follows:

> CASE CXLVIII.—Wound of thigh and injury to femoral, May 31, 1862; hemorrhage June 10th; femoral ligated on the same day, as was supposed, above the profunda; but the profunda being given off unusually high, was also tied; hemorrhage from profunda recurred June 17th, profunda religated same day; died from exhaustion two hours after operation.

Pemberton, in a second case, and Lister have successfully tied with antiseptic catgut; it is possible that this method of tying the artery, under consideration, may reduce the mortality. The common femoral being covered by but skin with connective tissue, can be readily exposed, can be examined by touch and sight, and the presence of a neighboring large branch recognized. Should the limb be œdematous as high as the groin, the application of a horse-shoe tourniquet with the pad over the artery for a short time will render the vessel again superficial. Recourse was had to this expedient in my own case. The fact that the crural sheath encloses a funnel-shaped space much larger than the contained vessels can fill, permits a free examination for the profunda. It will be probably wise, in view of the shape of the crural sheath, to open it freely for another reason, lest drainage occur backwards toward the pelvis rather than outwards. From the study of recorded cases I am led to the following conclusions:

1st. Ligation of common femoral in continuity for distal wound is attended with great mortality, and should not be substituted for the application of ligatures to an artery above and below the point wounded.

2d. Ligation of common femoral for elephantiasis or aneurism, is proper.

3d. The crural sheath should be freely opened and the vessel carefully examined for the origin of the profunda and epigastric, the ligature not to be tied within a half or three-quarters of an inch of either.

4th. Half or three-quarters of an inch below Poupart's ligament will probably be the most favorable locality for the ligature.

5th. The presence of a small branch near the seat of ligature does not contraindicate the operation; such branch should be also tied.

TRAUMATIC RUPTURE OF RETINA AND CHOROID BY A PLUSH BALL.[1]

BY CHARLES SHAFFNER, M.D.,

ASSISTANT SURGEON TO THE EYE AND EAR DEPARTMENT OF THE PHILADELPHIA DISPENSARY.

ON September 11, 1883, V. H., a school-boy, ten years old, applied for treatment at the Philadelphia Eye and Ear Dispensary, stating that he had received a blow over the left eye in play from a plush ball at the hands of a playmate two days before. This brought on moderate pain for a half hour and caused him to cry, as the mother thinks, more from fright than from severe pain. She applied cold water to the eye, and this was all the treatment he had until he fell into my hands. He soon noticed that he had lost almost all his sight in his left eye, and his mother's anxiety on account of this was the direct cause of his seeking treatment.

At his first visit the right eye $= \frac{18}{\text{xx}}$; accommodation = J. I at 3″ to 25″; H. 1.5 D. Left eye $= \frac{4}{\text{cc}}$; accommodation = J. I at 2″ to 5″; M. 6 D. Right eye, ophthalmoscopic examination showed nothing abnormal except that the optic papilla was rather pale, and had a crescent to the outer side, amounting to one-sixth of its diameter.

Left eye showed a pale optic papilla, oval in shape; axis 90°, with a porus opticus equal to one-sixth of disk, and with a crescent equal to one-tenth of a diameter. Outwards from the disk were seen three vertical white lines (ruptures of the choroid) the first of which was about a half a diameter away from the disk, and extending about one-fourth an inch in a vertical direction, as everything is magnified by the lens of the eye; lower down was a small spot of choroiditis; outwards from this rupture was another, not more than one-third the size of the first, and about a fourth of a diameter further outwards, also vertical in its direction, and showing white sclerotic in its depth. About the region of the macula lutea was another and very striking rupture, much larger, whiter, and bifid above, showing a very white background.

A slight fresh clot was hanging to its inner edge and floating in the vitreous in front of the rupture. The retina was generally congested, and its vessels much enlarged. The conjunctivæ were not congested, cornea was normal. Pupil was considerably dilated and did not react to light (no atropia had yet been used). The lens was in place and uninvolved.

Treatment was rest in the house in a moderately dark room, an eye-shade and a solution of atropiæ sulph. gr. j to ℥j in left eye once daily.

About September 22d I examined him carefully again, and found right eye vision $= \frac{15}{\text{xx}}$; H. 1.5 D. Left eye vision $= \frac{15}{\text{cc}}$(?); H. 2.25 D, or return to hypermetropia. A change from myopia, showing swelling of the disk. The largest rupture was seen to be half a diameter in width, and several diameters in length. The smaller ruptures were surrounded with hemorrhages. The spot of choroiditis did not appear. The edges of the disk were indistinct and cottony, showing that neuritis had set in. Choroid was congested and its circulation rather plainly seen. Retinal vessels were dilated. The pupil was still much dilated, although very little atropia had been used, the case having been left almost entirely to nature.

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[1] Read before the Philadelphia Ophthalmic and Aural Book Club Association, March 17, 1884.

September 29th, right eye vision $= \frac{15}{XX}$. Left eye vision $= \frac{15}{XL}$. The largest rupture appeared with a black border, otherwise the same as before, while vision was much improved. No marked change of tension, but it might be a little diminished.

Left eye for near vision has come up to reading J. 6 at 3″ to 10″.

A CONTRIBUTION TO THE STUDY OF THE ETIOLOGY OF MALARIA,

BASED UPON OBSERVATIONS COVERING A PERIOD OF NINE MONTHS, AT FORT SILL, INDIAN TERRITORY.

BY RICHARD COLE NEWTON, M.D.,
ASSISTANT SURGEON, U. S. ARMY.

How much real advance has been made in establishing the true nature of the cause, or causes, of malarial diseases since the days when Watson lectured on this subject, the reader can judge by turning to the works of that eminent teacher. To the writer, after a careful survey of the field—so much of it, at least, as is accessible to him—it appears that no material addition has been made to the common stock of knowledge from Dr. Watson's time to the present. Furthermore, certain writers and lecturers have of late boldly denied the assumption of Lancisi (which the majority have always accepted) of the existence of a specific malarial poison; while others prefer to take the fashionable position of agnostics.[1]

Even "the enthusiastic Tommasi Crudeli"[2] is quoted in the *Sanitary Engineer*[3] as saying, "Unfortunately, malaria may be produced in the most diverse soils, and that which perfectly succeeds in abolishing it in one place, may have no effect in another. . . . As yet we are working blindly. Sometimes we obtain good results; sometimes it seems as if we made matters worse. We need careful study of the *natural history*[4] of malaria, of the effect upon it of change of character or condition of soils," etc. It would seem from this that this well-known observer must have lost faith in his own alleged discoveries, or that, at any rate, he finds the "bacillus malariæ" very unmanageable.

The only paper written in defence of the specific nature of the malarial poison that I have seen very recently is a short article by Dr. D. Parker, of Texas,[1] which takes well-chosen ground in favor of the usually accepted theory.[2]

Dr. Sternberg's recently expressed hope—that the true cause of malaria will soon be demonstrated,[3] can but be the hope of every educated man, and a source of encouragement to every physician whose practice obliges him to combat this stealthy enemy from one year's end to another—with the probability that he himself will fall a victim to it at last.

The object of this paper is not to divulge anything new or startling, but simply to call attention to some facts which the writer has carefully verified, and which he believes have an important bearing upon the question of the specific nature of the malarial miasm.

The writer became Post-Surgeon in this Post (Fort Sill, Ind. Ty.) in the latter part of February, 1883, and was relieved from this duty November 20, 1883. During this period (about nine months) he attended "sick call" himself (with less than two dozen exceptions), and took entire charge of the cases in the hospital. He, therefore, is certain that all the cases diagnosticated as malarious received anti-periodic treatment (generally preceded by a mercurial purge), and believes that the diagnoses were correctly made.

The surroundings of this Post do not seem at first sight unsalubrious; but an inspection of the soil shows that it contains much clay. Watson[4] and Hertz[5] have pointed out that malaria is apt to arise from clayey soils—presumably from their imperviousness. After each rain-fall here, the water remains above ground with remarkable persistency. Moreover, owing to the comparatively flat landscape, the natural drainage is bad.[6]

Sir J. Fayrer says, "that much is attributed to climate which is more properly chargeable to defective hygiene and careless mode of living."[7] Without doubt, the hygiene of this fort is execrable, owing to the clayey soil and rank vegetation, and to the disregard of every hygienic law evinced by the builders of the barracks. These are all built of limestone—a porous, hygroscopic rock. The men's quarters (with which alone this article has to do) are of simple construction, without cellars. The floor is about three feet from the ground. The air, however, may circulate underneath, through small apertures left in the wall. There is only one wall (eighteen inches thick), roughly plastered on its inner side. There are no ceilings to the barracks, and each soldier has practically over eleven hundred cubic feet of air-space. All the barracks for the men are substantially similar.

The accompanying figure will show the disposition of these buildings as regards the creek, from which our water supply comes, and the points of

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[1] See New Lenox Malaria Case, Boston Med. and Surg. Journ., December 28, 1882.

[2] Dr. C. P. Russel, Medical Record, September 15, 1883.

[3] May 31, 1883.

[4] Italics mine.

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[1] Medical Record, September 29, 1883, p. 363.

[2] For an able résumé of the status of the bacillus malariæ, see THE MEDICAL NEWS, vol. xlii. p. 40.

[3] Paper read at meeting of American Public Health Association, THE MEDICAL NEWS, November 24, 1883.

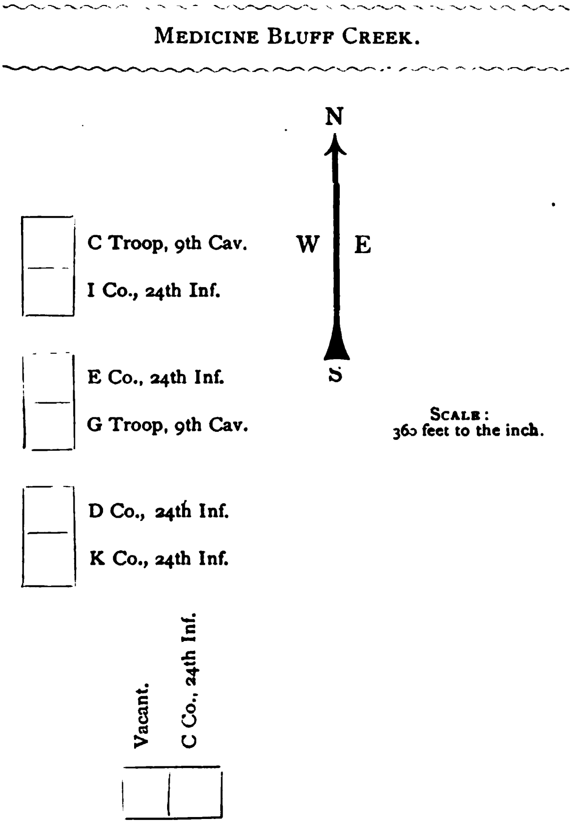
[4] Lecture XL.

[5] Vol. II. Ziemssen's Cyclopædia.

[6] A long ditch, which partly drained three sides of this Post, was followed by a permanent improvement in the health of the troops. This was cut some years ago.

[7] Croonian Lecture, British Medical Journal, March 25, 1882.

the compass. Each building is one hundred and eighty-six feet long, and is divided equally by a transverse partition; each half accommodating one company of soldiers. The distance from the shore of the creek to the northern end of C Troop's, 9th Cavalry, quarters is five hundred and forty feet. A passage-way of about twenty feet separates the three buildings, which run north and south, from each other. Nearly a hundred feet further south is the barrack of C Company, 24th Infantry. Medicine Bluff Creek[1] is a stream of varying volume; the water has always more or less vegetable matter suspended in it. When the stream is swollen it widely overflows its banks, and, subsiding, deposits great quantities of dead leaves, grass, etc., in varying stages of decay, along the banks, and even in the forks of trees and tops of bushes..



The garrison of this fort is composed of six companies (until October 8th last there were seven) of colored troops. Only five white enlisted men are serving here. The officers, of course, are white, and the majority of them have their families here.

The prevailing wind is from the south. The next most frequent wind is the north wind, called here "norther." It is always much colder than its opposite, and is popularly believed to bring more malaria.

The directions of the wind at this Post for the years 1880, 1881, and 1882, taken from the records of the Signal Office here, are as follows. Three observations daily.

1880.		1881.		1882.	
Direction.	No. of Observations.	Direction.	No. of Observations.	Direction.	No. of Observations.
N., . .	247	N., . .	228	N., . .	294
N.E., .	102	N.E., .	58	N.E., .	58
E., . .	43	E., . .	73	E., . .	78
S.E., .	227	S.E., .	106	S.E., .	122
S., . .	215	S., . .	376	S., . .	331
S.W., .	74	S.W., .	41	S.W., .	59
W., . .	11	W., . .	22	W., . .	21
N.W., .	58	N.W., .	96	N.W., .	96
Calms, .	121	Calms, .	95	Calms, .	95

Very soon after beginning to attend sick-call, the preponderance of cases taken upon sick report from certain companies excited the writer's curiosity, and a little reflection led to the belief that the position of the company quarters with reference to the creek had something to do with the facts noted. After being relieved as chief medical officer, the writer spent some days in preparing the following tables, and it seems to him that the fruit of his labor may be of general interest.

Table I.

Whole number of cases of malarial disease for nine months, and whole number of days of sickness.

	Cases.	Days.
C Troop, 9th Cavalry, . .	71	231
I Company, 24th Infantry, . .	48	168
C " " " . .	44	139
E " " " . .	39	115
K " " " . .	28	82

D Company, 24th Infantry, left this post for another station October 8, 1883, and G Troop, 9th Cavalry, was "in the field" for nearly four months. To make Table I. more complete, we have:

Table I. A, for seven months.

	Cases.	Days.
C Troop, 9th Cavalry, . .	51	152
I Company, 24th Infantry, . .	35	124
C " " " . .	32	100
D " " " . .	28	91

Table I. B, for five months.

	Cases.	Days.
C Troop, 9th Cavalry, . .	21	57
C Company, 24th Infantry, . .	17	44
E " " " . .	12	34
G Troop, 9th Cavalry, . .	12	29
K Company, 24th Infantry, . .	9	29
I " " " . .	8	22

Table II.

Average duration of cases.

	Days.
C Troop, 9th Cavalry, . .	3.25
I Company, 24th Infantry, . .	3.50 (or 3.02)[1]
D " " " . .	3.25
C " " " . .	3.16
E " " " . .	2.94
K " " " . .	2.92
G Troop, 9th Cavalry, . .	2.16

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[1] This name arose from an old Indian legend, and not because the water has alleged medicinal qualities.

[1] A case of typho-malarial fever, which terminated fatally after six weeks in the hospital, and which was the only case of continued fever during the period, might, I think, be fairly left out in computing I Co.'s average sickness.

There are, of course, differences in the number of soldiers in each company. Cavalry companies, or troops, as regulations prescribe that they shall be called, number, when full, sixty-six men. Infantry companies number only fifty; however, in actual (mean) strength the companies here during the nine months were nearly equal.[1]

The mean strength of any company is constantly varying from discharges, men being ordered on detached service, etc. With considerable labor, Table III. was prepared. The percentage of sickness to the men of each company actually serving in this Post is here shown.

TABLE III.

Percentum of men sick with malaria in nine months.

C Troop, 9th Cavalry, . . .	135 per cent.
I Company, 24th Infantry, . .	128 "
C " " " . .	118 "
E " " " . .	106 "
K " " " . .	68 "

Table III. A.

Percentum of men sick with malaria in seven[2] months.

C Troop, 9th Cavalry, . . .	98 per cent.
I Company, 24th Infantry, . .	94 "
C " " " . .	89 "
D " " " . .	71 "

Table III. B.

Percentum for five[2] months.

C Troop, 9th Cavalry, . . .	38 per cent.
G " " " . . .	20 "

Table III. C.

Percentum for one month (Sept. 1883) the most sickly.

C Troop, 9th Cavalry, . . .	46 per cent.
I Company, 24th Infantry, . .	34 "
E " " " . .	30 "
C " " " . .	20 "

Mean strength of the command for the period, 277; total number of malarial cases, 269; per cent., 97. Total number of days lost to the Government by malarial sickness amongst the soldiers, 855. Average duration of all cases, 3.02 days.

A comparison of the tables and the diagram will show that the number of cases of sickness and days of sickness increases in each company as the barracks are nearer the banks of the creek, with the single exception of C Company, 24th Infantry, which holds the third place in Table I., the fourth in Table II., the third in Table III.—Why? Obviously because the quarters of this company lie directly *across* the course of the north wind. Were the south wind as unwholesome as the north, K Company, 24th Infantry, would have the same average of sickness as C Troop, 9th Cavalry, but not so great as C Company, 24th Infantry, because K Company's quarters present a narrow end (twenty-six and a half feet), whereas C Company's quarters offer their whole length to the north and south winds. Leaving out C Company, 24th Infantry, we have a regular gradation, the number of cases, days of sickness, and per cent. of cases gradually diminishing as we go away from the banks of the creek.

Some disciple of Dr. Oldham may say that, as it has been stated above that the north wind is colder than its opposite, may not the chill produced by the sudden changes[1] really cause the malarial troubles? To which the very obvious reply is that there is no difference in temperature between E Company's, 24th Infantry, barracks and those of K Company, same regiment, and yet the one nearer to the creek has the more sickness. I am aware that some remarkable instances have been recorded of the growth of a line of shade trees, or the removal[2] a few hundred yards of a dwelling or barrack stopping malarial fevers, etc. It has even been asserted[3] that screens or mosquito-nets will shut out malaria as well as the insects. But no observations of bodies of men alike in age and condition, eating the same food, wearing similar raiment, performing the same duties, etc., have shown—at least so far as I know, that a difference of residence of less than one hundred feet from the banks of a stream will make a difference in the number of cases of sickness occurring on the *same* days.

There is some diversity in the duties of the cavalry and infantry. The former have horses to groom and water. Therefore G Troop, 9th Cavalry, has been brought into every Table where possible, in order to compare it with C Troop, same regiment.

The banks of the creek afford all the supposed factors for the production of malaria, and to the writer it seems that the course of the malarious sicknesses, during his term as post-surgeon, demonstrates that these factors do produce the specific poison here, which the north wind brings into the post.

That there is as yet an unknown factor, as assumed by Dr. Sternberg[4] and others, seems probable. The malarial virus must, as has often been pointed out, lose its potency very rapidly in the air; otherwise C Company, 24th Infantry, would have the highest, instead of the third place in the Tables, since their exposure is greater to the noxious wind than is that of any other company.

The blacks seem about as liable to malarial poisoning as the whites, in this garrison, but are much more amenable to treatment, as the average duration of cases amongst them (3.02 days) shows.

These soldiers are selected men, mostly young, without physical defects, and, generally speaking, of good habits. Malarial diseases owing to the fever, anorexia, emesis, constipation, loaded tongue, yellowish conjunctivæ, etc., (the first symptom is invariable, and some of the others quite constant) are not easily feigned.

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[1] It is easier to get recruits for infantry than cavalry regiments among the blacks, and our infantry companies are nearly or quite full. In an Indian country, the cavalry service is generally more arduous.

[2] The computations are made in these tables for those months only in which the companies mentioned in the table were doing duty in the Post together.

[1] Without being able to collect precise data, I dare say that the fall of the thermometer generally exceeds 20° F. within two hours after the setting in of a norther.

[2] See admirable description in Watson's Practice, and other standard text-books.

[3] British Medical Journal, April 1, 1882, Croonian Lecture.

[4] Op. cit.

Malingering is mentioned rather to show that as a possible source of error it has not escaped notice, than because it seems probable that it would vitiate the conclusions to be drawn from so large a number of cases.

Could a wall, twenty feet[1] in the sheer, be built along the banks of the creek it would, I believe, improve the health of this command.

MEDICAL PROGRESS.

The Thermo-cautery in the Treatment of Anal Fistule.—Dr. E. Farcy recommends the thermo-cautery in the treatment of fistula in ano, and draws the following conclusions as to its advantages:

1. The operation is rapidly performed, and several fistulous tracts may be operated on at the same time.
2. Chloroform is unnecessary, and there is no danger of either primary or secondary hemorrhage, as by other methods.
3. By this method the vitality of the tissues is excited and there is only moderate suppuration. The wound is protected from the direct influence of the air before granulation sets in.
4. There is no fever, no erysipelas, no phlegmons or purulent infection, no relapse, and the cicatrix is linear. It is therefore the best method for operating in these cases.—*Revue de Thérap.*, April 1, 1884.

Gastrotomy.—A remarkable operation of this kind was performed by Mr. Knowsley Thornton on Tuesday, May 6th, at the Samaritan Hospital. A girl, aged eighteen, who was a patient of Mr. H. P. Symonds, of Oxford, had indulged for some years in the habit—not unknown in the records of clinical medicine—of eating the combings of her hair, and swallowing cotton and other like materials. A large mass gradually collected, which was moulded into the shape of the stomach, and measured nine and a half inches in length, and five in breadth at the cardiac end. The stomach was opened on its anterior surface by an incision five inches long. Very little hemorrhage ensued, and the mass was extracted by means of a vulsellum. During this process, precautions were taken so that neither the wound nor the peritoneum was fouled by the contents of the stomach. The wound was closed by five silk sutures, deep and superficial, interrupted and continuous. A case of a similar kind, which terminated in the recovery of the patient, is recorded by Schönborn in Langenbeck's *Archiv*, vol. xxix., 1883, page 619. Mr. Thornton's patient was doing well at noon on Thursday, May 8th.—*British Med. Journ.*, May 10, 1884.

Resection of Muscles in Infantile Paralysis.—Mr. Keetly has recently undertaken the resection of part of the quadriceps extensor femoris in a case of infantile paralysis, causing inability to extend the right knee. By shortening the weak, relaxed, and partly atrophied muscle, the operator hoped to increase its strength, with the aid of electricity during recovery from the operation. Mr. Willett has already resected the tendo Achillis in paralytic talipes calcaneus, with good results, finding that the shortening of the abnormally elongated tendon enables the muscles of the calf to regain some portion of their lost functions, especially when the muscular wasting has been chiefly due to disease, and has not advanced too far. Mr. Keetly's patient was a boy, aged six, who had suffered from paralysis of the right lower extremity for four years, and the muscular atrophy was not complete, yet sufficient to prevent thorough extension of the knee. A longitudinal incision was made in front of the thigh, about three inches in length, ending an inch above the patella; the skin was held apart by retractors, and one inch of the entire substance of the quadriceps was cut away with scissors, about two inches above the patella. The separated ends were united by means of about one dozen carbolized catgut ligatures. Esmarch's bandage had been applied before operation, and only one small artery required ligature. The wound was dressed with a small iodoform pad and carbolic gauze, and the limb placed on a back-splint at an angle of sixty degrees with the bed. The operation was performed on May 5th. The wound healed rapidly and perfectly, and, when a sufficient time has elapsed, the results will be made known.—*British Med. Journ.*, May 31, 1884.

Porro-Mueller Operation.—Dr. Franzolini performed this operation on May 2, on a woman thirty-six years of age, for pelvic stenosis and deformity from osteomalacia. The fœtus was extracted dead. The pedicle was treated by the extra-peritoneal method, and Listerian precautions were used. All went well until the tenth day, when the patient was seized with a pleuro-pulmonary complication, which carried her off in two days.—*Gazz. Med. di Torino.*, May 15 and 25, 1884.

Laparomyomotomy.—R. Kaltenbach gives a review of his ten cases, with indications for the operation. Of his ten cases eight were supravaginal operations, and two were myomotomies. In these two the tumors were more or less pediculated, and the intraperitoneal method was used. In the eight cases the cavity of the uterus was opened, and the stump treated by the extraperitoneal method. In most of the cases Hegar's operation was employed, that is, with the double elastic ligature around the neck, with the parietal peritoneum sewed up, and the stump rendered aseptic by the actual cautery and chloride of zinc, after being fastened extraperitoneally by lance-needles to the abdominal walls. Only one case, in which the stump was treated by Péan's method, proved fatal. In the case of women who have not come to the menopause Kaltenbach leaves the ovaries.

Large circumference of the tumor, rapid growth with bleeding, severe bleeding, or symptoms of pressure, are the indications for operating. For outward advancement of small tumors toward the abdominal wall Kaltenbach recommends removal by the vagina. The extraperitoneal treatment of the pedicle is to be preferred. The intraperitoneal method should only be used when it insures safety against bleeding and sepsis.—*Centralbl. für Chir.*, May 17, 1884.

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[1] Signor Crudeli has stated that an obstacle twenty feet high and perpendicular will stop the course of the malarial poison. Boston Medical and Surgical Journal, January 18, 1883.

THE MEDICAL NEWS.

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OF MEDICAL SCIENCE.

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SATURDAY, JULY 5, 1884.

BEER-DRINKING AND HEART DISEASE.

THE bodily ills that come of the abuse of drink are so many and so dire that it would appear almost impossible to add to the dreary catalogue of them. Yet BOLLINGER, at a recent meeting of the Ärztlichen Verein, in Munich, called attention to the part played by beer-drinking in the causation of certain forms of heart disease, a subject which, if it be not altogether new to some of our readers, has certainly not been generally understood.

Most writers, it is true, speak very guardedly upon the subject of idiopathic hypertrophy and dilatation of the heart, but Seitz and others have adduced an abundance of evidence to prove that cases in which the fatal termination is directly due to this form of cardiac disease are of frequent occurrence. The records of the Pathological Institute of Munich show that idiopathic hypertrophy of the heart is of much more common occurrence in that city than elsewhere. The observations of several local pathologists confirm this statement. The figures are not without interest. Spatz found among 638 men no less than 55 affected with so-called myocarditis. Among 433 women, there were 23 cases. Among 290 men between the ages of thirty and sixty years were 41 cases of myocarditis, or 14 per cent. Among 144 women at the same period of life, only 10, or 7 per cent., were affected. Hermann's cases showed among 305 sections, 49 examples of plethora-heart as the cause of death in men, while only 3 occurred in women.

Von Buhl regarded these hypertrophies of the heart without discoverable cause, such as valvular lesion or arterial sclerosis, as the result and product of a chronic myocarditis, which usually ended fatally in consequence of fatty degeneration of the muscle. Under the influence of this teaching, and because the patients, as a rule, enter the hospital and die with symptoms of failure of the heart, this form of hypertrophy came to be generally regarded in Munich as the result of an inflammatory process. Bollinger, finding, in most of the cases, no anatomical evidences of inflammation, and just as seldom fatty degeneration, cannot accept this view, and regards the hypertrophy as simple, or idiopathic. At his suggestion, Schmidbauer undertook, by means of exact observations, to establish the extent of this epidemic of cardiac hypertrophy in Munich upon a statistical basis, and to discover its cause. In 1000 post-mortem examinations there were 46 cases, 32 men, 14 women, of undoubted idiopathic hypertrophy of the heart, as the cause of death. As an associated condition—not as the cause of death—idiopathic hypertrophy of the heart was found in 33 other cases, 23 men, 10 women. All cases of enlargement of the heart due to lesions of the valves, or disturbances in the pulmonary circulation, or associated with arterial sclerosis, or granular atrophy of the kidneys, were of course excluded. Certain of these cases of idiopathic hypertrophy of the heart were, perhaps, to be accounted for by prolonged excessive muscular effort and bodily strain. But the greater number, as was determined by carefully worked-out personal investigation, particularly among suicides, were explicable only by habitual excesses in beer-drinking in connection with a true plethora, the existence of which has, however, been of late denied by a majority of physiologists and pathologists.

The habitual consumption of beer in excessive quantities tends to hypertrophy by the direct action of alcohol upon the heart, by the enormous amount of fluid introduced into the body, and by the easily assimilated nutritive constituents of the beer itself. Furthermore, such habits are often associated with great bodily activity and an at least relatively luxurious manner of life. The average weight of the normal heart in men is relatively greater in Munich than elsewhere, a fact, without doubt, dependent upon the excessive consumption of beer in that city. The characteristic changes in the form of hypertrophy under consideration consist in the participation of both sides of the heart, and in an enormous increase in the volume of the primitive muscular elements, with enlargement of the nuclei. Whether or not actual numerical increase in the muscular fibres takes place cannot be known.

Many individuals addicted to such excesses attain an advanced age notwithstanding cardiac hypertrophy, by reason of constitutional peculiarities, an active open-air life, or an enforced moderation, but the greater number perish after brief illness with symptoms of cardiac failure. At the post-mortem examination are discovered moderate dropsy, pulmonary œdema, brown induration of the lungs, bronchitis, congestion of the lungs, liver, spleen, kidneys, and other organs. Fatty degeneration of the muscular wall of the heart is absent in most of these cases, and death must, in the absence of adequate anatomical lesions, be looked upon as due to paralysis of the cardiac nerves and ganglia.

The condition of such subjects not rarely amounts to a true plethora of the most typical kind, such as is seen among the drivers of beer-wagons and workers in breweries in this country.

The frequency of idiopathic hypertrophy of the heart in men, in whom it is apt to prove fatal in the very prime of life, is in strong contrast with its infrequency among women. The latter also suffer from less pronounced forms of the affection.

It is interesting to note that while the average amount of beer consumed during the year 1882 elsewhere in Germany ranged, in different districts, from 54 to 186 litres for each person, in Bavaria it reached 233 litres, and in Munich 432.

These facts constitute an important contribution to the subject of the non-valvular affections of the heart, and are, from their obvious bearings and the favorable circumstances under which they have been studied, of great value in their relations to practical hygiene. The excesses in beer common in some parts of Germany are rare in the New World, but that such excesses are attended by a direct and grave danger, hitherto little suspected, should be generally understood. It is unfortunately a sermon little likely to reach or to be heeded by those to whom its lessons would be of greatest use.

THE PROPHYLAXIS OF TUBERCULOSIS.

THE prophylaxis of tuberculosis was recently considered at a meeting of the Hygienic Section of the Vienna College of Physicians, and a committee, consisting of HEIN, SCHRÖTTER, WEICHSELBAUM, KAMERER, KOWALSKI, and KRATSCHMER, reported a series of directions based on a recognition of Koch's views, which are published in the *Wiener medicinische Wochenschrift* of May 10th.

In the first place, it is assumed by the committee as demonstrated, that the expectoration of individuals with cavernous excavations of the lungs, and the fecal discharges of those having intestinal tuberculosis, are the chief sources of transmission of the disease; hence, it is to such cases that precautions apply. In apartments occupied by such, an abundance of fresh air should be provided, the floors and walls, body- and bed-clothing should be kept scrupulously clean; because it is the dried sputum and the infectious excretions adhering to them which gradually become pulverulent and so liberate the ever-living and dangerous bacilli. To the same end, expectoration into handkerchiefs should be discouraged, and spit-cups should be substituted. The drying and pulverization of non-disinfected expectoration outside of the sick-room should be prevented by the frequent emptying of spittoons, and disinfecting the contents with a five per cent. solution of carbolic acid. Especially should this be done where many persons are grouped together, as in hospitals, lecture-rooms, asylums, barracks, railway stations, and, above all, where large numbers of phthisical persons are grouped together, as at health resorts especially frequented by phthisical cases. So, too, disinfection should extend not alone to expectoration and to alvine dejecta, but to other discharges from tuberculous tissues and organs, as the pus from tuberculosis of the skin and of bones, as well as to bandages, and bed- and body-clothing which become soiled with the discharge.

The disinfection of clothing which can be washed is to be accomplished by boiling for an hour with sodium carbonate, while other materials are purified by exposure for an hour to dry heat at a temperature of 212° F., or to the action of steam at the same temperature, and for the same length of time.

Persons with advanced tuberculosis should, as far as possible, be isolated from other members of the family, and where this is impossible, hospital treatment should be provided; especially should infants and feeble children be removed from households which include such cases. Close proximity of places of sleeping, and especially the sharing of the same bed by healthy persons and those affected with phthisis should be avoided, while especial care should be taken to secure the necessary isolation of cases of advanced phthisis where the residence happens to be a store for the sale of articles of food. Marriages of persons with tuberculosis should be forbidden, with a view to preventing at once the transmission of phthisis from man to wife, and to posterity.

Since the effect of the various affections of the respiratory organs is to increase the predisposition to tuberculosis, the possibility of the occurrence of such diseases should be reduced to a minimum. Hence everything should be done to diminish dust formation within doors and in the streets. Measures to this end are proper house-cleansing and street-cleansing regulations. And for the same reason, physicians should coöperate with the civic authorities in preventing the spread of whooping-cough and measles.

The use of the milk of cows affected with bovine phthisis should be discouraged, while that from animals having tuberculosis of the udder should be positively prohibited. Such milk should only be taken after having been well boiled. The use of the flesh of animals similarly affected should be forbidden.

The rules of prophylaxis include some which are not justified either by the dictates of humanity, or by clinical experience; as, for instance, the isolation of the sick from their friends and families, and remanding them to hospitals where they not only miss the sympathy which is so comfortable to the sick, but may even suffer for want of proper nursing.

There can be no doubt, however, that advantage will result from the systematic consideration of these suggestions. Hitherto partially observed measures will thus be more rigidly carried out, and new measures enforced, while it is scarcely likely that at the present day hardships will be practised on the unfortunate whose lot is already sufficiently sad, without the additional pang of separation from friends.

In the discussion which followed the reading of the report there was much difference of opinion, the question being chiefly as to whether a stringent observance of the regulations suggested should be insisted upon, or whether some latitude should be allowed, the prevailing view rather favoring the latter, toward which we must express our own inclination.

THE MODE OF ORIGIN OF GENERAL MILIARY TUBERCULOSIS.

ALTHOUGH it has been for some time recognized that a very large number of cases of general miliary tuberculosis are secondary to primary foci, it cannot be said that we have had, until quite recently at least, any accurate information as to the *modus operandi* of such foci.

BUHL early asserted that the general process originated in absorption from a softening mass of cheesy matter, but how this took place, and why in the majority of instances the cheesy focus fails to give origin to secondary miliary tuberculosis, he did not explain. PONFICK'S discovery of tuberculosis of the thoracic duct, and WEIGERT'S of tuberculosis of the veins, brought us a step nearer to the solution of the problem. The latter published, in 1879, three cases of acute general miliary tuberculosis in which he had discovered a large thrombus-shaped tubercular focus in a pulmonary vein, which he regarded as the starting-point of the tuberculosis. In 1882, he reported nine cases of acute general miliary tuberculosis, in seven of which he found tuberculosis of veins, and in two tuberculosis of the thoracic duct. The former appeared as true tubercular infiltrations of the vessel walls, projecting into the interior of the vessel in a thrombus-like, or polypoid manner, smooth, except at a single point of ulceration, and centrally cheesy. Upon these observations Weigert based the assertion that *acute general miliary tuberculosis*, in adults at least, *depends upon a tubercular focus either in a vein or the thoracic duct*—ascribing the acute tuberculosis to the sudden introduction of a large quantity of tubercular poison, either from a large focus, or numerous small foci, while that form of general miliary tuberculosis in which only a few nodules are found in separate organs, is ascribed to the disintegration of a small vein-tubercle. So, too, the nodules of varying size and limited number found in the spleen, liver, or other organs, along with pulmonary tuberculosis, he ascribed to the introduction of a small amount of tubercular matter into the blood.

Quite recently, WEICHSELBAUM, in the *Wiener med. Wochenschrift*, No. 12, March 22, has apparently supplied the missing link in the proof of this proposition, by the publication of three cases of acute general miliary tuberculosis in which, associated with tuberculosis of the veins, he found tubercle bacilli in the blood of the patients, after death. The first case was that of a young woman of twenty-five, who died of phthisis six days after aborting of a four months fœtus. She had suffered with cough, shortness of breath, and fever for some weeks previous. The autopsy revealed tuberculosis of the uterine veins at the insertion of the placenta, both Fallopian tubes distended with cheesy matter, and their mucous membrane injected, thickened, and infiltrated with small nodules. Some of the cheesy and softened tubercular nodules as large as a pea, and containing nests of closely packed bacilli, protruded into the lumen of the veins and fused with the thrombi found in their interior. Out of twelve slides of blood from a heart-clot—clotted blood was used because of its containing a large proportion of bacilli—four contained the parasite.

The second case was a man of forty-three, in whom a branch of the pulmonary artery in the right upper lobe contained a polypoid tubercle larger than a bean, ulcerated at one point, cheesy at its centre, and continuous with a large cheesy focus in the same lobe. Preparations from a white thrombus from the left ventricle contained relatively numerous bacilli in groups of from two to six, as did also fresh coagula, and even fluid blood from the femoral vein, although in smaller numbers.

The third case exhibited, besides general miliary tuberculosis, cheesy foci and bronchiectasis, a cheesy abscess about the tendon of the right supinator longus muscle, and chronic tuberculosis of the seminal vesicles, the left vas deferens, the epididymis and prostate. A cheesy mass surrounded a large vein of the pudendo-vesical plexus, and in one place had perforated the vein. Out of nine preparations made from heart coagula, two contained bacilli.

Weichselbaum believes it a necessary inference from these facts, that in chronic general miliary tuberculosis, that is, the form in which along with pulmonary tuberculosis single nodules of different size and age are found in the liver, spleen, or kidneys, these secondary deposits arise in the same way, even though the bacilli are not found in the blood, since they may easily escape detection when few in number. In support of this view, Weigert has found in two cases of this kind small tubercles in the walls of veins.

REVIEWS.

M. PASTEUR—THE HISTORY OF A SAVANT.

THIS is the title of a little volume, the fourth edition of which has been recently issued in Paris. Louis Pasteur was born December 27, 1822, and is, therefore, in his sixty-second year. He showed, when a young man, great ability as a painter, but gave himself especially to the study of chemistry, making in this department of science important discoveries. His first public position seems to have been that of assistant professor of chemistry at Strasbourg, and, while living in that city, a curious story is told of him. He was engaged to be married, but, when the wedding-day came, seemed to have forgotten, in his scientific pursuits, the appointed event, and had to be sought in his laboratory, and reminded that the time had come for his marriage. When thirty-two years of age, he was appointed Dean of the Faculty of Sciences at Lisle. As one of the chief industries in the department in which he lived was the manufacture of alcohol, he determined to give part of his lectures to the study of fermentation, and thus began those wonderful investigations by which he has opened a new world to science. Although not a physician, he has probably done more to influence medical theories and therapeutics than any man of the century.

When his doctrine of an attenuated virus of certain malignant diseases of inferior animals was announced in the Academy of Sciences, Bouley exclaimed: "A new doctrine is revealed for medicine, and this doctrine seems to me powerful and luminous. A great future is at hand; I anticipate it with the faith of a believer, and the zeal of an enthusiast."

We cannot follow his biographer in his sketch of Pasteur's subsequent studies of spontaneous generation —a doctrine which, we need not tell our readers, he utterly rejects—of wine, of the diseases of the silkworm, of beer, of chicken cholera, of malignant pustule, and of septicæmia.

In 1868 overwork brought hemiplegia, and even then, when he was expecting death, he dictated to his wife a note upon the studies so dear to his heart, and which was communicated to the Academy of Sciences. He has never completely recovered, and the members of the left side are still impaired in motion.

The French government has liberally provided for his researches. The ancient garden of the old college Rollin has been placed at his disposal, and there he has built stables for horses sick with glanders; stables, too, for diseased sheep, and a kennel for dogs with hydrophobia. On the ground floor of the laboratory, he has collected a world of animals for experiments—dogs, hens and chickens, rabbits, and guinea-pigs. In all vivisections, the animal is chloroformed, and Pasteur remarks—the words are well worthy the attention of antivivisectionists—"Never have I had the courage to kill a bird in hunting; but when experiments are concerned, no scruple stops me. Science has the right to invoke the supremacy of the end."

His biographer gives a graphic account of a visit made by Pasteur and himself at the call of a *veterinaire*. It is mentioned that there does not occur at Paris a case of hydrophobia to which Pasteur is not called. They went taking with them some rabbits, for the purpose of having them bitten by the dog. They found a huge bulldog, howling and frothing in his cage, and an effort was made by putting an ear of one of the rabbits between the bars of the cage to have it bitten, but failed, and Pasteur said, "Nevertheless it is necessary to inoculate these rabbits with the saliva." The dog was then lassoed, drawn out of the cage, the jaws tied, and, stifled with rage, eyes injected, the body shaken with a violent spasm, fixed upon a table, when Pasteur, bringing his own head a finger's breadth from the dog's covered with froth, aspired with a tapering glass tube some drops of the saliva. The biographer remarks that it was in this terrible *tête-à-tête* Pasteur has appeared to him the grandest.

SOCIETY PROCEEDINGS.

MEDICAL ASSOCIATION OF THE COUNTY OF NEW YORK.

Stated Meeting, June 16, 1884.

THE PRESIDENT, WM. DETMOLD, M.D., IN THE CHAIR.

DR. J. LEWIS SMITH read a paper on

THE SUMMER DIARRHŒA OF CHILDREN.

This, as was well known, he said, was principally confined to children under two and a half years of age, and was much more common and fatal in cities than in the rural districts. Of late years, it was gratifying to know, however, that the mortality from this cause had been somewhat controlled in consequence of the exertions of health boards and of the effect of other agencies. Still, it remained the great scourge of the community during the summer months. In the year 1882, the deaths in New York from diarrhœal diseases in children under five years of age for the different months were as follows:

January,	34 deaths.
February,	50 "
March,	57 "
April,	63 "
May,	72 "
June,	231 "
July,	1053 "
August,	877 "
September,	382 "
October,	195 "
November,	68 "
December,	35 "

Among patients over five years of age suffering from diarrhœal diseases, the deaths for the different months of the same year were as follows:

January,	14 deaths.
February,	15 "
March,	14 "
April,	20 "
May,	15 "
June,	19 "
July,	131 "
August,	149 "
September,	84 "
October,	55 "
November,	31 "
December,	24 "

It would thus be seen that in the year 1882 there were nine times as many deaths during the five months from the first of June to the last of October as during the remaining seven months of the year; while in the same year seven and a half times as many persons under five years as over that age died from diarrhœa. These figures probably represented very fairly the average ratios in large cities. In the last three years in which the New York Board of Health issued annual instead of weekly reports, the deaths from diarrhœa for the various months were as follows:

	1873.	1874.	1875.
January,	94	43	46
February,	84	34	52
March,	97	80	58
April,	114	47	45
May,	95	61	89
June,	220	147	157
July,	1514	1005	1387
August,	967	1007	1012
September,	424	587	608
October,	213	255	185
November,	87	105	57
December,	53	56	50

In these three years there were altogether 9855 deaths from diarrhœa, and all but 1407 of them occurred in children under five years. The same general facts were true in regard to other cities in the United States and Europe; although in many of them the proportionate mortality was not so great. In country towns and villages, and in the rural districts generally, on the other hand, cases of diarrhœal disease occurred comparatively rarely, and were usually of a mild type.

There were two distinct factors in the causation: *first*, the atmospheric; and, *second*, the dietetic. In regard to the first, the prevalence of diarrhœa corresponded closely with the increase of atmospheric heat. In New York, it commenced in May and reached its maximum in July and August, when it constituted by far the most frequent and dangerous disease met with in the city. In September it began to diminish again. In October, however, the mortality from it was always considerably greater than during the month of May, although the average temperature was lower than in the latter; which would seem at first to be contrary to what we would naturally expect. But this was explained by the fact that the deaths were usually those of infants who had contracted the disease during the summer, and had never recovered from its debilitating effects.

The fact was, therefore, an undisputed one, that the summer season was one of the great causes of the diarrhœa. The exact causative agents in its production were not, however, so easy to arrive at; since much the same degree of heat prevailed in the rural districts as in the cities. It seemed probable, therefore, that noxious effluvia constituted or contained the morbific agent. One year, on the 10th of May, in an institution with which Dr. Smith was connected, an offensive odor was noticeable in the building, which was found to come from a manure heap on some neighboring premises; and in consequence of the emanations from it four children (of whom one died) were taken with diarrhœa. He also mentioned the fact that once, when visiting a tenement district in the city on behalf of a citizens' association, he found that in the part of a certain street lying between two avenues, which was compactly built up on both sides with wooden tenement-houses, nearly every infant was ill with diarrhœa.

The population was almost exclusively foreign, and there being no sewers, all the refuse of the houses was thrown into the street. Water was also constantly poured out into it, and the decay of the vegetable and animal substances in the hot summer weather rendered the whole air foul and stifling. In another locality, where there were a number of tripe-dealers and a low class of butchers, who were accustomed to resort to bone-boiling, diarrhœa was very prevalent and fatal both in the street and the adjoining neighborhood. Murchison found that twenty out of twenty-five boys were attacked with diarrhœa, which was excited by the effluvia from an old drain near the school which they attended, and the purgative effect of impure air was everywhere well recognized. Thus, medical students previously in good health were not infrequently attacked with diarrhœa as the result of working in the dissecting-room.

Whether organic impurities giving rise to diarrhœa were organized or not, was not yet definitely determined. A bacillus of cholera infantum, it was true, had been discovered; but whether it was a causative agent, or merely an incidental concomitant, was still an open question. Dr. Smith then referred to certain gases and gaseous combinations liable to be found in the air which were supposed to have a purgative effect; and among the most active chemical compounds in this respect were the sulphates. In all large cities solid impurities were very numerous in the atmosphere, as could be readily seen by observing the air lit up by a pencil of sunlight; and this accounted, in great part, for the hazy cloud that could usually be seen hanging over towns and cities. In the present state of our knowledge, we had to be content with saying that impure air was one of the great causes of infantile diarrhœa, without being able to state precisely its *modus operandi*. This led us to the presumption, however, that, in addition to heat, there were infectious germs; and the conditions existing in the summer in cities were certainly favorable to the development of low organisms. In this connection, Dr. Smith referred to the various evils incident to the life in crowded tenement-houses as specially liable to result in the production of diarrhœa among infants and young children.

He then passed on to the consideration of the second great cause—the dietetic. The mode of feeding was a most important element in the causation of diarrhœa, and, in cities, infants under eight months old, if bottle-fed, almost invariably contracted the disease in summer. In institutions it was a well-known fact that every bottle-fed child under four, and even six months died at this season. Among the tenement-house population, one great trouble was that young children were given fruit and ordinary table-food; and hence the second summer, when the infants were no longer nursed at the breast, was always regarded with peculiar apprehension. Occasionally it happened that from continued ill-health the milk of the mother or nurse became deteriorated (containing cholesterine), and would not agree with the infant. A quiet life, devoid of any active excitement, was essential to the proper performance of lactation; as was especially shown in the cases reported in the *Louisville Medical Journal*, in which venereal excesses on the part of wet-nurses were followed by the sudden death from diarrhœa of the infants to whom they were giving nourishment. All authorities agreed that nothing was so good for infants as breast-milk; but where they were deprived of this, cows' milk was, as a rule, the best substitute for it. The trouble with the latter, however, was, that if it came from cows fed in or near the city, it was apt to be deficient in nutritive qualities; while if it was brought from a distance, lactic acid formation was liable to commence before it could be used. Hence it was that such a variety of prepared foods had been suggested.

In New York, improper feeding was quite sufficient to produce diarrhœa without the influence of atmospheric conditions; but where the two causes were combined, it was not to be wondered at that the infant mortality was so large during the summer months. Before the establishment of the present Foundling Asylum, all foundlings were sent to the Almshouse on Blackwell's Island, where they were entrusted to the care of pauper women. who were filthy and careless in their habits, and who fed them with improper diet. The consequence was, that such children, as a rule, always died of diarrhœa before reaching the age of two months, and if by any chance one of them occasionally lived for a longer period than this, it was regarded with profound wonder. Here, again, the two great factors in the causation of the trouble were foul air and improper food. Since the Foundling Asylum had been organized, he was happy to say, many of these little waifs were rescued from death.

At this point he alluded to the supposed influence of dentition in the etiology, and stated his positive conviction that this was not in reality a cause. This, he thought, was proved by the fact that infants under three or four months (not having as yet reached the age of dentition) were quite as liable—and even more so—to diarrhœa than the older ones in whom the process was taking place.

On account of the length of the paper, Dr. Smith was obliged to omit considerable portions of it in the reading, and he therefore passed over the description of the symptoms, merely pausing to remark that in the great majority of cases the disease began very gradually. Hence mothers were very apt to let the trouble run on for one or two weeks (under the impression that it was due to dentition and was really beneficial to the child) before calling in the services of a physician. Vomiting, as a rule, was not an early symptom. But there were certain sudden and severe cases which were properly designated as cholera infantum. This term, he thought, should be restricted to those cases in which the symptoms were much more violent than ordinary. It was almost as severe as true Asiatic cholera, and in no other disease except this was such a marked change in the appearance of the patient so quickly produced. It was also sometimes called cholera from diarrhœa; and it was fortunately not so frequently met with now as formerly.

In referring to the anatomical characters of the disease, he stated that he was firmly convinced that it was an inflammatory affection from its very commencement. In eighty-two cases, of which he had the records, he had made careful post-mortem examinations, and had found in all of them marked hyperæmia, which was confined for the most part (although not exclusively) to the ilium and colon. Hence it was, in reality, an ilio-colitis.

Omitting the consideration of the diagnosis and prognosis, and of the best preventive measures, he passed on to speak of the curative treatment, which, he said, comprised four essential points, viz.:

(1) To give the best available food.
(2) To supply the child with pure air.
(3) To aid digestion.
(4) To use such medicinal agents as could be safely employed to check the diarrhœa.

If the mother was not able to nurse her child, and a wet-nurse could not be provided, it became the physician's duty to recommend some substitute for breast-milk. At a very important conference of German physicians of eminence in connection with diseases of children, held at Salzburg, in 1881, all the delegates agreed that human milk contained all the requisite physiological elements quantitatively and qualitatively suited to the growth and development of the infant, and that where this was not available, animal milk constituted the best substitute. Of the many prepared foods now in the market, it was declared that they could in no way substitute mother's milk, and their use was strongly condemned. It was unfortunately the fact, however, that cow's milk in cities was extremely apt to be defective, and likely to be itself one of the causes of diarrhœa. An analysis of the various infants' foods showed that all which consisted to any extent of cow's milk differed widely in constitution from mother's milk. Nestle's food, however, where it seemed to agree with a child, was probably beneficial from the large amount of Swiss condensed milk which it contained. How to modify cow's milk so as to make it resemble human milk as closely as possible, was one of the most important suggestions that emanated from the German conference referred to; and this modification was made by peptonizing the milk. This peptonizing had the effect of rendering the casein, which was the chief source of indigestion, easily digestible, and the process was to be suspended as soon as the milk began to assume a bitter taste. In peptonized cow's milk the casein was found to be in delicate flakes instead of the hard masses in which it ordinarily existed in this fluid. For this very important advance in infant dietetics the profession was indebted to Pfeiffer, of Wiesbaden. In order to have the milk in the best possible condition for the child's use, it was necessary to peptonize it in small quantities as required. Dr. Smith then described the way in which the infant's diet now used at the New York Infant Asylum was prepared; five grains of Fairchild's extractum pancreatis and ten grains of sodium bicarbonate are added to one gill of warm water and one pint of cow's milk. The liquid should be tasted frequently during the course of preparation, and as soon as it became in the slightest degree bitter, the peptonizing should be arrested. This could be done either by applying heat or placing the milk on ice, and the latter he considered preferable, as it only suspended the process (which it was desirable should be renewed in the child's stomach); while the application of sufficient heat to arrest it had the effect of destroying the ferment. Of this peptonized cow's milk, one part to three parts of water should be used for a child of one month or under, one part to two parts of water for a child of three months, and a dilution of from one-third to one-quarter water for a child of six months. Before the process of peptonizing was resorted to, barley-water was frequently used to dilute the milk, under the supposition that the farinaceous substances mechanically separated the cakes of casein into smaller masses, and this was probably the next best substitute. Baron Liebig had been the pioneer in directing a physiological substitute for mother's milk, and by his process of converting starch into grape sugar had conferred a great favor on humanity. Having spoken of the use of wheat flour and malt extract in the preparation of diet for infants, he alluded to several of the foods now used to a considerable extent in this country. To such as Ridge's food and the imperial granum, milk had to be added, as they contained none. In speaking of condensed milk, he said that Borden's milk, as served fresh from the wagon, contained no cane sugar; while this was always a constituent of the canned condensed milk. To select the best food for an infant was one of the most important duties of the family physician. The portion of the paper devoted to the medicinal treatment of summer diarrhœa was omitted.

DR. H. A. POOLER, of Goshen, New York, said that, having some years ago been obliged, on account of ill-health, to give up his practice in New York and remove to a farm, he had taken great interest in the investigation of the milk-supply of the city, and had endeavored, so far as he was able, to assist in the correction of some of the evils attendant upon it. Mother's milk was the natural food of the infant, and it was supplied to the child at a temperature of from 98° to 100°. In comparing mother's milk with good commercial cow's milk, it was found that they each contained about three and a half per cent. of fat. The great difference between them was in the quantity of casein; the mother's milk containing only about two and a half per cent. of it, and cow's milk about six per cent. In addition, the casein of cow's milk was harder and more difficult of digestion. If cow's milk were diluted one-half with water, the quantity of casein, it was true, was reduced one-half; but, unfortunately, the fat was also reduced in a like proportion. The child fed upon such diet, therefore, was deprived of one-half its natural source of growth, and enfeebled digestion and an unnourished body would be the result. But the child was also robbed of its nourishment to a greater extent than this. The milk before it was dispensed in the city passed through the hands of a number of dealers and speculators, by whom from forty to sixty per cent. of water was added to it. Even this, however, was not all. The milk, instead of being produced within a radius of sixty miles of New York, as it should be, was, as a rule, brought from very long distances. This was because it could be purchased at lower rates at a distance, and the competition was so great that the farmers near the city did not receive sufficient compensation to pay them for providing a regular supply of unadulterated milk. In consequence, the milk was from forty-eight to fifty-four hours old by the time it reached the consumer's residence. The dealers were not scrupulous, however, and if the milk became turned before it was delivered, they did not hesitate to add to it borax, soda, or other substance which might prove injurious to an infant's stomach. In this diluted milk, brought from such a long distance, there was very apt to be found a large amount of peculiarly hardened casein, resulting from the removal of fat, which was known among milkmen as "hickory curd." Finally, in order to keep the milk for the long time that was required, it was necessary to add a large lump of ice to each can, and this ice, being usually gathered from low and shallow ponds, was often filled with organisms that were exceedingly liable to be a source of irritation and disease. In addition to the hard curd, the presence of foreign substances, both animal and vegetable, in the milk was unquestionably a not infrequent cause of diarrhœa in children.

It was the duty of the medical profession, who were the custodians of the public health, to see that there should be a reform in this matter; and a good deal had already been accomplished towards it. Of late, the reprehensible practice of giving cows fermented food had been less common than formerly; and a bill had recently been passed by the legislature which prohibited this entirely. The New York City Board of Health and the State Boards of both New York and New Jersey had been appealed to to provide that the milk supply should be as good and as free from adulteration as possible, and, in consequence of this action, the quantity of milk brought to New York had been reduced by one hundred thousand quarts. The result of this improvement in the quality of the milk was, that while in 1882 there were 19,000 deaths from diarrhœa, in 1883 this mortality was reduced by 3664; and it was hoped that in the present year there would be a still greater reduction. There was plenty of good milk to be had within a comparatively short distance of New York, if the farmers could only be sufficiently encouraged to produce it, and he trusted that every one of these present would do what he could in improving the milk-supply of the city. If each one would select some milkman in his district, and, having convinced himself that the milk which he sold was of good quality, would recommend him to his patients, no little good would be accomplished in the establishment of a high standard for milk, which it would be to the interest of the dealers to maintain. In conclusion, Dr. Pooler recommended that when milk was diluted with water for young infants, a sufficient amount of good cream should be added to make up for the reduction of fat that was caused thereby, and also laid special stress upon the importance of giving the milk to the child at a temperature of 98° to 100°, instead of 40° to 60°, as was so commonly done.

PROF. LEEDS, of the Stevens Institute, at Hoboken, who, like Dr. Pooler, had been especially invited to take part in the discussion, said that Dr. Smith, in his paper, having called attention to the intimate relations existing between the thermal curve and summer diarrhœa, and having pointed out that heat alone was not sufficient to produce the disease, he wished to speak for a moment of the complicated atmospheric conditions of crowded cities, and to call attention to one point that seemed to have been greatly overlooked. When a short time since he had been called upon by the engineers engaged in selecting a new water supply for the city of Philadelphia to recommend one that would answer the purpose desired, and was making analyses of all the available sources of supply in Eastern Pennsylvania, he was greatly embarrassed to know what standard of purity he should take with which to compare the various waters. It occurred to him that perhaps rain-water, which came direct from the clouds, would be the best standard of comparison; but he was disappointed in not being able to find any statistics whatever in regard to the variations to which rain-water might be subject under different circumstances and conditions. He therefore made himself an analysis of various specimens of water from rain, fog, and snow, and found to his surprise that all the rain-water which he examined was far more impure than the water taken from the head-waters of the Delaware, Lehigh, Schuylkill, and other streams investigated. This was due, without doubt, to the fact that the rain washed a vast amount of impurities out of the atmosphere as it fell. Dr. Smith had alluded to gaseous and organic matters (the latter probably containing germs), as causes of diarrhœal disease, and he had found a large amount of disagreeable organic matter in rain-water. It seemed to him astonishing that the medical profession had not provided itself with information as regards the purity or impurity of the atmosphere, or medical climatology, as it might be called, and he thought it would be an excellent thing if the Signal Service Bureau of the United States could supplement its meteorological reports with reports of the proportion of oxygen, organic matters, etc., in the atmosphere.

As regards the matter of infant feeding, he was of opinion that we were nearer a practical solution of this important problem than had been deemed possible ten years ago. This had been indicated by Dr. Smith, who had rightly attributed great importance to the results of the conference of German physicians to which he had referred. All authorities were agreed that cow's milk was, on the whole, the best substitute for mother's milk, and the practical point, therefore, was to determine what was the best way of preparing it for the infant. We did not know at the present time precisely what the elements were which made up the so-called casein of cow's milk; it having been ascertained simply that they were coagulable by acids. We did know, however, that there was a difference in the percentage and in the character of the albuminoids and the fats in cow's milk and in human milk, while the milk-sugar was precisely the same in both. As Dr. Smith had mentioned, Pfeiffer had demonstrated that the casein of cow's milk could be rendered similar to that of human milk by peptonizing it. As to the fat in human milk, it was not all appropriated, since twelve per cent. of it, as a rule could be found undigested in the feces of the infant. It was, therefore, supplied in excess by nature. In cow's milk the average quantity of albuminoids was twice that found in human milk. In the preparation of a substitute for the latter, he would suggest that to a pint of good cow's milk one pint of water should be added. If to this mixture two ounces of cream and four hundred grains of milk-sugar were added, the percentage constitution of the fluid would resemble very closely that of mother's milk. If, furthermore, the insoluble casein of the cow's milk were converted into soluble peptones by the action of extractum pancreatis, as recommended by Dr. Smith, it seemed to him that we should have a reliable substitute for the natural food of the infant which would probably give satisfactory results if practically tested. The recent advances made in regard to this subject would, in the near future, he thought, work untold good in the reduction of the now enormous mortality among infants and young children.

DR. WILLIAM H. WELCH then presented specimens of

PRIMARY TUBERCULOSIS OF THE GENITO-URINARY APPARATUS.

The patient from whom they were taken had been in Dr. Gouley's wards at Bellevue Hospital. He was an Italian, twenty-five years of age, and was admitted, in April last, suffering from a purulent discharge from the urethra, swelled testicle, with enlarged epididymis, and elevated temperature. The history was a very obscure and meagre one. Under treatment, the discharge became greatly diminished, and the swelling of the testicle subsided; but the temperature continued high, and the general condition grew worse instead of better —the patient being affected with great weakness and frequent sweats. The diagnosis of acute interstitial nephritis (surgical kidney) was made, and he died June 3d. At the autopsy, primary tuberculosis affecting a large portion of the genito-urinary tract was found. It seemed to begin in the left epididymis, which was enlarged, mostly in the globus major, the distended tubules being filled with cheesy matter. The testicle itself was involved, but, undoubtedly, secondarily. The trouble in the testicles was confined to the left one; and the corresponding vas deferens was also affected. The caseous substance mentioned could be traced up to the situation of the seminal vesicles and prostate gland. In that position, behind the neck of the bladder, a cavity of the size of an orange (a tuberculous abscess) was found, and this had completely destroyed the seminal vesicles, as well as all the central portion of the prostate gland. At one point it opened into the prostatic portion of the urethra; and this opening had undoubtedly existed during life. The lateral lobes of the prostate gland were comparatively unaffected. Miliary tubercles were found throughout the whole length of the urethra, as well as in the bladder. The left ureter was dilated and filled with the same cheesy matter as other portions of the genito-urinary apparatus, and the kidney on that side was also immensely enlarged. It was the seat of extensive tubercular disease, the structure of the organ having been destroyed to a considerable extent, and the parenchyma being filled with cavities containing cheesy matter. The right kidney was free from tubercles, but was enlarged, and, together with the left one, was affected with interstitial nephritis. The glands back of the rectum were filled with cheesy matter; but no other glands in the body were affected.

The interesting points in regard to this case, Dr. Welch said, were: 1. It was a pure and unmistakable case of primary tuberculosis of the genito-urinary apparatus. 2. There was a mixed infection—the gonorrhœal with the tuberculous. It was not absolutely certain that the patient had had gonorrhœa, but this was highly probable, as the swelling of the testicle was of the kind characteristic of gonorrhœa, and not such as was ordinarily met with in tuberculosis of the organ. In addition, the so-called micrococcus of gonorrhœa had been found to be present. 3. The tubercular disease was confined to the left-side organs. This was certainly merely an accident as regards the kidney, as, since the tubercles were scattered over a considerable portion of the interior surface of the bladder, there was apparently no more reason why the left ureter should have become affected than the right.

In connection with the above specimens, Dr. Welch exhibited several other kidneys which were the seat of primary tuberculosis. One of them was very large, and completely filled with cavities containing cheesy matter. It was taken from a man who was the subject of Pott's disease, and who had also been suffering from psoas abscess, and in connection with the latter there was a tuberculous sinus through the ureter. There was also tuberculosis of the peritoneum, and primarily it had been a case of tuberculous caries. There was a great difference when tubercle gained access by means of the blood-current and when it was transmitted from mucous membrane. In the latter case the destruction of tissue was much more marked, and large cavities were formed, very much as in the lungs. In the specimens of tuberculous kidney exhibited, the mode of infection had been by way of the ureter.

In conclusion, Dr. Welch referred to the existence of the bacillus tuberculosis in the urine of those suffering from tubercles of the kidney, which had first been discovered a little over a year ago. It could by no means always be found, even when searched for with the utmost care, but, if it were found, it constituted a point of the utmost value in diagnosis. In one case he had been successful in finding it, and the diagnosis was afterwards confirmed by autopsy. At post-mortem examinations the bacillus was seldom observed in the caseous matter filling cavities, but he had found it common around the borders of the cavities.

INDIANA STATE MEDICAL SOCIETY.

Annual Meeting, held in Indianapolis, June 10, 11, and 12, 1884.

TUESDAY, JUNE 10TH—FIRST DAY.

The Society was called to order by **the President**, S. E. **Munford**, M.D., of Princeton, at 10 A. M., in the Plymouth Congregational Church.

Dr. E. S. Elder submitted the *Secretary's Report*, showing a reported membership of 1006.

Dr. George H. Kemper then presented the *Treasurer's Report*, showing a total balance of $265.41.

PUBLICATION OF THE PROCEEDINGS.

A proposition was received from Dr. F. C. Ferguson, editor of the *Indiana Medical Journal*, offering to publish the proceedings of the Society in the journal under the supervision of the publishing committee and to furnish each member of the Society a copy for one year, provided the Society will pay him the funds that have heretofore been devoted to their publication in book form.

The proposition was referred to a Special Committee, consisting of Drs. Hibberd, Woollen, Boyd, Kemper, and Rowland.

Dr. G. W. H. Kemper, of Muncie, read a paper on

ANGEL-WING DEFORMITY,

based on his own observations as pension examiner. He thought the disease, which is in the nature of paralysis of the shoulder, is caused by overwork and lack of proper diet, and he recommended the use of electricity in treating it. A man so afflicted does not have the free use of his arm, as he can raise it only to a horizontal position.

Dr. L. B. Woollen, of the Switzerland County Society, submitted a paper on

ADENIA, OR HODGKIN'S DISEASE,

in which he narrated a case, treated by him years ago, of a man who came of a scrofulous family and first suffered from enlargement of the glands of the neck, which spread to other glands. He found that croton oil, externally applied, was the most satisfactory remedy to relieve the pain, although the disease is incurable.

AFTERNOON SESSION.

Dr. George J. Cook, of Indianapolis, read a paper on *Puritus Ani.*

PUBLICATION OF THE TRANSACTIONS.

The committee appointed to consider the matter of publishing the Transactions of the Indiana Medical Society in the *Indiana Medical Journal*, reported the following resolution for adoption by the Society:

Resolved, As the sense of this Society that the Select Committee should proceed at once to prepare the draft of a contract with the proprietor of the *Indiana Medical Journal* for issuing, for the next ensuing year, the Transactions of this Society in his journal. *Provided*, that the expense shall not exceed sixty cents per capita of the entire membership of this Society.

On motion, the matter was laid over until the next annual meeting of the Society, the auxiliary societies to act upon the proposition in the meantime.

THE COMMITTEE ON ETHICS

reported in the case of Dr. W. W. Vennedges's appeal from the Tippecanoe County Medical Society, that the action of the Society be sustained. In the case of Dr. E. T. Mendenhall, of the Henry County Medical Society, the Committee reported that no action can be taken, as his case had not been presented in legal form. The report was adopted.

Dr. Joseph Eastman, of Indianapolis, read a report of *Four Cases of Ovariotomy*, and **Dr. J. F. Hibberd** read a paper on *Post-partum Hemorrhage.*

EVENING SESSION.

The President, Dr. S. E. Munford, of Princeton, then delivered his

ANNUAL ADDRESS,

his subject being a *A Question in State Medicine.* He said: It has been the custom to charge the faulty education of the profession in this country to the medical schools. From the largest in the land, to those of exiguous classes and light equipments, these institutions are not guiltless. They have been too much possessed by our national impatience and hurry, and have practically allowed students to determine the time they should study, and what should be the standard of requirements.

This Society and its auxiliaries are educating centres in the interest of the profession and for the good of the people. One State, and some local societies in this country have established a standard of literary attainments for those who desire to enter the profession, and make it obligatory upon their members to receive no one under their care who shall not possess the certificate of a board of examiners setting forth their fitness to engage in the study of medicine. The perfection of the organization of this body, and its admirable *ésprit du corps* render a measure of this kind easily practicable to it, and I trust we shall have such as a part of our organic law at an early day. Such a restriction of medical pupilage could not fail to exert an immediate salutary influence.

In conclusion he said: In presenting this subject for your consideration, I have endeavored to show the following points: That vicious practices in medical schools began in the remote past, and have been fostered in our day by competition, and by the rush and haste which are characteristic of our energy; that the fundamental cause of incompetency in the medical profession in this country is primal illiteracy; that the intelligent comprehension and use of an art which rests upon science is not possible to the ignorant; that the presence in the profession of those who have not the educational attainments essential to intelligent citizenship is injurious beyond all calculations of the interests of medicine, and is a peril to society; that the remedy is a better scholarship, and its application is largely with the profession. With all there is to regret as to the educational standard of medicine, there is just cause in this day for congratulation. There is a general awakening in favor of reform, and if we read aright the signs of the times the next decade will mark a greater advancement in the interests of our profession than has been wrought in thrice that period of the past. The medical press, the medical schools of the better class, and the general sentiment of the profession seem to favor measures which have for their object the improvement of the educational qualifications of the American doctor. While we invoke and await the aid of the law to regulate the practice of medicine in the interest of the people, let us commend our cause to society by unceasing internal efforts for reform.

Wednesday, June 11th—Second Day.

Dr. A. J. Miller, of Paris, Ill., read a paper with especial reference to the

WORK OF THE ILLINOIS MEDICAL ASSOCIATION.

He said the tendency was to elevate the standard of medicine in his State, despite the defects and inability to obtain needed legislation. Protection against the mountebanks and charlatans, he thought, was essential to the welfare of the profession.

Dr. D. A. Moss, of the Oxford Retreat, and a member of the Ohio Medical Society, said that the same difficulties existed in Ohio, touching legislation, and it seemed impossible to get a bill through the legislature of any consequence. One reason of this was that so many men prepared bills, and the supporters of one usually antagonized all others.

In the absence of **Dr. H. V. Sweringer**, of Fort Wayne, his paper on *Post-partum Intrauterine Injections of Carbolic Acid*, was referred to the Committee on Publication.

Dr. W. H. Myers, of Fort Wayne, read a paper on *Puerperal Pyæmia*.

Dr. J. R. Weist, of Richmond, read a paper entitled

MALPRACTICE SUITS; CAN THEIR FREQUENCY BE LESSENED?

He asserted that every action for damage for alleged malpractice was encouraged by some rival of the defendant in the medical profession. Many medical men of property, he said, would not take a case in surgery, knowing that they would run the risk of a suit for damages, provided their operation was unsuccessful. He cited numerous instances of physicians losing thousands of dollars in defending malpractice suits before ignorant juries. In Henry County alone, judgments had been entered against physicians falsely accused of malpractice to the amount of $14,000. He submitted a resolution passed by the Wayne County Medical Society, urging the passage of a bill drawn by State Senator Foulke, providing in the trial of an issue for the appointment by the court of one or more expert witnesses, who shall be required to give testimony and shall be paid the same as ordinary witnesses. Such a measure, Dr. Weist thought, would be of inestimable value to physicians in defending suits brought by irresponsible and dishonest persons simply for gain.

Dr. E. F. Hodges, of Indianapolis, read a paper on the same subject, in which he took the lawyers to task for encouraging the bringing of malpractice suits. He regarded them as largely responsible for the trouble caused to reputable physicians.

Dr. P. H. Jameson said that a malpractice suit had never been prosecuted successfully in Marion County. He attributed this to the fact that the physicians had protected one another.

Dr. F. J. Van Vorhis defended the legal profession against the attack. He was of the opinion that the passage of the Foulke bill might accomplish good results. The further consideration of the matter was postponed, pending the report of the Committee on Legislation.

THE FINANCE COMMITTEE

reported that the accounts of the Secretary, Treasurer, and Committee on Publication, had been examined and found to be correct, and recommended that $100 be allowed the Secretary, $50 to the Publication Committee, and $25 to the Treasurer.

Dr. G. V. Woollen objected to the report, saying that the Society should know something more about the finances.

The report was referred back to the Committee, with instruction to hear Dr. Woollen's objections.

The Report of the

COMMITTEE ON HOSPITALS FOR INSANE WOMEN,

by **Dr. Mary F. Thomas**, of Richmond, was received.

The Committee was appointed at the annual meeting of the Society, in May, 1880, to examine the reports of hospitals for insane women, where women physicians have been employed. Dr. Thomas says: "These reports have been encouraging, and the expression of those immediately connected with them so satisfactory, that it merits a continuance of the practice so auspiciously begun."

The COMMITTEE ON NOMINATIONS reported the following list of

OFFICERS FOR THE ENSUING YEAR:

President.—J. H. Woodburn, M.D., of Indianapolis.

Vice-President. — James A. Grigg, M.D., of Fort Wayne.

Secretary.—E. A. Elder, M.D., of Indianapolis.

Assistant Secretary.—W. H. Lopp, M.D., of Columbus.

Treasurer.—G. W. H. Kemper, M.D., of Muncie.

AFTERNOON SESSION.

DR. S. S. BOYD, of Dublin, read a paper on *Medical Legislation.*

DR. GEORGE W. KNOLAND, Chairman of the Committee on the subject, reported *A Bill to Regulate the Practice of Medicine.*

Drs. Weist, Hodges and Van Vorhis were appointed a Committee to further the passage of an Act to govern the courts in the matter of *Expert Testimony.*

MEDICAL LEGISLATION.

DR. J. F. HIBBERD presented the following resolution:

Resolved, That it is the sense of this Society that the time has arrived when the members should exert their influence, singly and collectively, to secure the passage of a State law requiring of all persons seeking to become practitioners of medicine. that they shall be thoroughly educated in the elementary branches of medical science, and such education should be ascertained by a board of medical examiners, no member of which shall have any official connection with any institution of medical education. Adopted.

DR. HOBBS moved that all the papers now before the Society on medical legislation be referred to a select committee, who should be empowered to prepare the necessary points for a bill to be acted upon by the next Legislature. The president named as the Committee, Drs. Wilson Hobbs, Joseph G. Rodgers, and J. H. Woodburn.

DR. J. L. THOMPSON read a paper on *Asthenopia.*

EVENING SESSION.

DR. THEO. L. WAGNER, of Indianapolis, read a paper on

SMALLPOX AND THE PEST-HOUSE.

He said he had come to the conclusion that while we have advanced in the quality of the virus by using the bovine exclusively, we have retrograded in the manner of vaccination. Vaccination should be practised in at least two abrasions in different parts of the body, and be repeated until the virus ceases to take effect. Touching vaccine lymph, our laws, or rather our lack of laws on this subject, puts us all at the mercy of vaccine producers, whose honesty is our only reliance.

DR. J. W. MARSEE, of Indianapolis, gave a demonstration of a method of

TREATMENT OF FRACTURES OF THE LEG.

He erected a tripod about nine feet high on the stage. He then took a colored man, and, after placing him on a cot, he raised him by means of a pulley, using straps, head-rest, etc., to hold the body at any required height. He then showed how this could be accomplished by means of the ordinary appliances to be found about any house, in case a physician should be called to the country. In this demonstration he used an ordinary piece of wood as the bar, a strip of cloth for the head-rest, and a pair of carriage lines for straps. Having raised the body to a sufficient height, he proceeded to show how to put on the bandages, going into all the details, from the proper adjustment of the parallel plasters to the binding of the last cotton bandages. The body was then lowered and raised in different positions to demonstrate the methods of handling the patient.

THURSDAY, JUNE 12TH—THIRD DAY.

Papers were presented by Drs. H. I. Raymond, on *Antiseptic Treatment of Gunshot Wounds;* B. Wallace, of Franklin, on *Two Cases of Foreign Bodies in the Trachea;* T. J. Dills, of Fort Wayne, on *Intraocular Tumors;* and J. S. Arwine, of Columbus, on *Race Poison.*

The Committee on Legislation, by resolution, was instructed to provide in the bill to be presented to the next legislature that no physician shall be appointed upon the Board of Medical Examiners, who is not endorsed by the Indiana State Medical Society.

A SCHOOL OF PHARMACY.

The following was unanimously adopted:

The Trustees of the Purdue University having established a school of pharmacy in connection with the University, and recognizing the great need of educated and skilled pharmacists in order to enable the educated physician to successfully encounter disease, we hereby express our pleasure and approval of the action of the Trustees and pledge them our sympathy and support.

The customary vote of thanks was tendered to the retiring officers, and the Society then adjourned to meet in Indianapolis, on the second Tuesday in May, 1885.

MICHIGAN STATE MEDICAL SOCIETY.

Nineteenth Annual Session, held at Grand Rapids, June 11 and 12, 1884.

(Specially reported for THE MEDICAL NEWS.)

WEDNESDAY, JUNE 10TH—FIRST DAY.

MORNING SESSION.

THE meeting was called to order by THE PRESIDENT, DR. A. F. WHELAN, of Hillsdale. An address of welcome was delivered by the Hon. C. E. Belknap, Mayor.

The roll was then called by Secretary Ranney, and 109 members answered to their names.

The reports of the Secretary and Treasurer were then read. The *balance* in the treasury was $1050, exclusive of about $600 collected at this meeting.

PROF. DONALD MACLEAN, of Detroit, Chairman of the Committee on Surgery, reported four surgical cases which had come under his care.

A well-digested, carefully written essay by Dr. Samuel P. Duffield, of Dearbornville, was then read on *Expert Testimony and Compensation.*

AFTERNOON SESSION.

DR. C. J. LUNDY, of Detroit, read a paper entitled

THE DRY TREATMENT OF CHRONIC SUPPURATIVE INFLAMMATION OF THE MIDDLE EAR.

All knew that the disease was attended with danger, and that many had seen examples of caries and necrosis of the temporal bone, mastoid abscess, meningitis, cerebral abscess, or death which occurred as the result of a neglected suppurative otitis media. Therefore any system of aural therapeutics which the better enabled us to control and cure this affection was a great boon. Before beginning the use of powders, all remediable complications must be removed. If aural polypus or granulations be present, they must be removed or destroyed; and so it was also with removable pieces of necrosed bone in the mastoid or elsewhere.

The advantages which the dry treatment of chronic suppurative otitis media seemed to offer were: (1) The constant medication of the parts; (2) the thorough and continuous disinfection of the ear as well as the destruction of microörganisms; (3) the absorption of the discharges and protection from their irritating properties; (4) protection from atmospheric influences. It could not be claimed that powders should be used to the exclusion of remedies in other forms, and they were contraindicated at times. In certain cases they proved a failure, and sometimes did harm instead of good. While no definite plan could be laid down for the management of individual cases, yet some rules could be formulated for our guidance in a general way.

The so-called dry treatment would seem to be contraindicated under the following circumstances:

First. When the discharge is so profuse that the powder becomes supersaturated before it has had time to exert any beneficial influence. *Second.* When granulations or polypi exist, the dry treatment should not be employed until these bodies have been destroyed or removed; although powdered boracic acid would cause absorption or destruction of these in a few cases. *Third.* When the disease is complicated by caries or necrosis of the temporal bone. *Fourth.* When mastoid abscess is present or suspected. *Fifth.* When there is good reason to suspect the presence of meningeal or cerebral complications.

The remedies which might be used in the form of powder were numerous, but the writer had confined himself to the use of a few. He had found boracic acid to meet the indications in a majority of cases. When absolutely free from impurities it was a valuable remedy. It was difficult to get a preparation that had no irritating properties. Many failures to cure were attributed to want of therapeutical value of the medicine, whereas the impurities in the remedy were at fault. He had found Wyeth's boracic acid pure and free from irritating properties.

Boracic acid and resorcin—seven parts of the former and one of the latter—formed a valuable combination. Resorcin was too soluble to be used alone. Bismuth and the perchloride of mercury were valuable, especially when eczema of the auditory canal or dermatitis of the canal existed. Astringents could be combined with boracic acid if desired.

Before using these powders, the ear should be thoroughly cleansed. This was a matter of great importance. By means of a powder-blower, some of the powder should be blown into the deeper portions of the auditory canal, and even into the tympanic cavity, after which the canal should be more or less completely filled with the powder. After a lapse of one, two, or more days, according to circumstances, or when the powder becomes moist, it should be removed, the ear should be again thoroughly cleansed, and the powder reapplied. Cases were reported showing some very remarkable cures from the use of remedies in dry form, especially from boracic acid.

PRESIDENT WHELAN then called Vice-President Tupper to the Chair, and read his

ANNUAL ADDRESS,

on *Developments of Medical History, Science, and Art,* closing with an appropriate tribute to the memory o Drs. James H. Jerome and William Brownell, deceased.

DR. C. GEORGE, of Ann Arbor, read a lengthy paper giving the history of the use of *Large Doses of Turpentine in the Treatment of Diphtheria,* and his personal experience with it.

DR. H. O. WALKER, of Detroit, read a valuable paper on *Exploration of the Male Urethra,* exhibiting instruments to facilitate the same.

PROF. A. B. PALMER, of the University, read a paper on

PROSTATIC HYPERTROPHY AND URINARY OBSTRUCTION; ITS TREATMENT WITHOUT CATHERIZATION,

which, from the simplicity, and, to many, the novelty of the method, attracted particular attention.

After referring to the frequency of prostatic enlargement in advanced life, and the occurrence of what specialists call the "catheter period," which means a period of such obstruction to the passage of the urine in which the bladder is not completely emptied, an irritation of the urinary organs of a somewhat decided character occurs, and which also implies that from that time onward, the catheter must be a constant companion, and one likely to be brought into frequent use, and after further referring to the great unpleasantness and not unfrequent dangers of its introduction, the "catheter fever," and the still more frequent shock, the method of procedure in the management of cases was described as follows:

The urethra is to be filled with urine as in an effort at micturition. The penis is then grasped by the hand of the patient and the urethra is pressed upon so as to interrupt the flow; and then by straining as in the attempt to forcibly empty the bladder, the distention of the urethra is produced. This distending pressure is gentle, steady, diffused, and painless, and may be applied and sustained at will; and in a majority of cases, if daily repeated for a time, and if it is done thoroughly, and especially if commenced at an early period of the obstruction, it will overcome this form of stricture effectually, and without irritation or danger. A case, as a specimen of many others, was given in detail, as illustrating the efficiency of the measure.

The paper concluded with the statement that from sufficient experience, the efficiency and value of the method had been demonstrated, and it was strongly commended to the attention of the profession.

In compliance with a resolution previously made by Dr. Pratt, and adopted by the Society, the President appointed a

COMMITTEE TO NOMINATE OFFICERS

for the ensuing year, except the President. The committee was composed of Drs. Wm. Brodie, H. McColl, S. H. Clizbee, G. K. Johnson, and E. P. Christian.

DR. J. H. CARSTENS, of Detroit, read a paper on *Sterility in Women.*

THURSDAY, JUNE 12TH—SECOND DAY.

MORNING SESSION.

REPORT OF A CASE OF PERINEPHRIC ABSCESS,

by **DR. GEO. K. JOHNSON**, of Grand Rapids, was next read. This was a history of a man twenty-two years of age, whose illness, at first, was marked by the symptoms of typhoid fever, but they soon partially abated and an indefinite ailment, characterized by weakness, want of appetite, loss of flesh, feeble pulse, cachectic fever, and pain in the left iliac and lumbar region, led him again to seek advice. Pain in the left costo-iliac space had come on, and was increased by pressure; a feeling of weight in left flank and left upper abdomen was complained of, but no pain in genital tract or groin. Urine voided frequently, loaded with pus, but without blood, mucus, or casts. Left half of abdomen distended with a fluctuating tumor which was easily defined. A hypodermic needle passed into the tumor withdrew a drachm of pus and confirmed the diagnosis. The body forces were fast waning, and the danger that the cyst would rupture and pour its contents into the cavity of the abdomen was imminent; it was decided at once to aspirate the tumor. Passing the needle at the external margin of left rectus, two inches below the level of the umbilicus, eighty-four ounces of pus were removed; within a few hours relief came, fever left, and pain vanished. On the second day the temperature of the patient reached 100° F. in the morning, and 104° in the evening. On the fourth day the temperature was 99½° in the morning, and 104½° in the evening, when it reached its climax; the patient having, though restless, suffered no pain or swelling of the parts since aspiration.

Six days after the aspiration, some fulness appeared over the site of the tumor, and a few days later there was found to be considerable reaccumulation of pus, but the discharge by the urinary conduits was so free that no further accumulation took place, and all tumefaction slowly but steadily disappeared. Three months after aspiration the patient seemed entirely well; appetite, strength, flesh, and spirits, were fully restored. The urine was normal, and all traces of the tumor were gone. The author closed his paper with a comprehensive review of the literature of perinephric abscess.

DR. E. P. CHRISTIAN then read a paper on *Placenta Prævia.*

The Committee on Nominations then rendered their report, which recommended the following

OFFICERS FOR THE ENSUING YEAR:

Vice-Presidents.—Drs. J. Perkins, of Owosso; J. M. Cook, of Muskegon; Gordon Chittock, of Jackson; Carl Brumme, of Detroit.

Secretary.—Dr. Geo. E. Ranney, of Lansing.

Treasurer.—Dr. A. R. Smart, of Hudson.

Members of Judicial Council (for three years).—Drs. F. K. Owen, of Ypsilanti; C. V. Tyler, of Bay City; Hugh McColl, of Lapier.

DR. WARD moved the adoption of the report.

DR. H. B. SHANK moved to amend by laying the report on the table.

The amendment was lost, and the original motion was adopted.

The Society then proceeded to ballot for President. The whole number of votes cast was 196, of which Donald Maclean received 126; S. S. French received 63; scattering, 6.

The President said that **DR. DONALD MACLEAN**, having received a majority of all the votes cast, was elected President.

DR. G. K. JOHNSON said that, as in the minds of some the Society should be reorganized, he offered the following:

Whereas, as it appears that the present organization of the Michigan State Medical Society fails to give general satisfaction,

Resolved, that the Chair appoint a committee of five to take into careful consideration the entire matter and report at the next annual meeting. Carried.

DR. MILLS, of Port Huron, invited the Society to hold its *Next Annual Meeting* at Port Huron.

DR. H. B. SHANK moved to amend by substituting Lansing in place of Port Huron. The amendment was lost, and the original motion was adopted.

DR. CHARLES SHEPARD read a report on *Several Cases in Gynecological Practice.*

AFTERNOON SESSION.

DR. A. W. NICHOLS, of Greenville, read a paper on *Nasal Catarrh.*

DR. EUGENE SMITH, of Detroit, read a paper on

GRANULATED LIDS,

and related a case in which he had used jequirity with good effect. He uses a three per cent. solution, and applies it two or three times a day, for three or four days, and then follows with boracic acid. He thinks this remedy is well adapted to old chronic cases in which there is no purulent secretion.

DR. R. J. KIRKLAND, of Grand Rapids, read a paper on *Chronic Catarrhal Otitis.*

A paper by **DR. A. R. SMART**, of Hudson, on *Therapeutics of Dysmenorrhœa*, was read by title and referred.

DR. WADE, of Holly, read a paper on *Uterine Displacements.*

DR. DUFFIELD moved that when the Society adjourns, it does so to meet on the Second Wednesday of June, 1885. Carried.

THE PRESIDENT appointed the following committees:

To Report on Reorganization of the Society.—Drs. G. K. Johnson, A. W. Alvord, H. McColl, L. Connor, W. F. Breakey.

Committee on Legislation.—Drs. Foster Pratt, Wm. Parmenter, C. V. Tyler, Augustus Kaiser, A. W. Smart.

Over two hundred physicians were in attendance, upwards of eighty per cent. of whom were elected members at this meeting.

The Society transacted considerable miscellaneous business of a personal and local character during the session, and the meeting was the largest gathering of the physicians of Michigan ever held.

MINNESOTA STATE MEDICAL SOCIETY.

Sixteenth Annual Meeting, held at Stillwater, June 19 and 20, 1884.

(Specially reported for THE MEDICAL NEWS.)

THURSDAY, JUNE 19TH—FIRST DAY.

THE Society was called to order by THE PRESIDENT, **DR. LINCOLN**, of Wabashaw; about one hundred and twenty-five members being in attendance.

A COMMUNICATION FROM THE NEBRASKA STATE MEDICAL SOCIETY

was received, containing the following provisions:

"The Committee on Foreign Correspondence shall consist of one duly accredited representative (a member of this Society) for each State and Territorial Medical Society. They shall receive and review the *Transactions* of the Societies which they represent, and, through their Chairman, the Corresponding Secretary shall present annually a report of the advances in medicine made by said societies. They shall also report such other matters as their societies may wish to communicate to the Nebraska State Medical Society.

"It shall be the duty of the representatives of any foreign society to communicate all advances in matters medical and governmental made by said Society in the year just past, as well as all matters of whatever kind his society may wish to be brought to the notice of the Nebraska State Medical Society."

In accordance with this implied request, **DR. BLACKMER**, of Albert Lea, was appointed the representative of Nebraska in the Minnesota Medical Society.

THE ADDRESS OF THE PRESIDENT,

DR. LINCOLN, of Wabashaw, was an appeal to physicians to promulgate the doctrines of hygiene and preventive medicine. It discussed the physiological effects of alcohol, and dealt with inebriety as a disease, and with the relations of alcoholism to heredity. The members of the Society were urged to study the problems involved in these subjects, and to record and preserve all facts within their experience which may aid in their solution.

AFTERNOON SESSION.

MISCELLANEOUS BUSINESS.

DR. HUNTER, of Minneapolis, offered a resolution to the effect that the chairmen of committees shall act as a committee whose duty it shall be to examine all papers to be presented at the annual meeting, and to decide which shall be read and discussed; and that the Corresponding Secretary shall furnish each member with a list of such papers at least a month before the meeting. The resolution was unanimously adopted.

DR. LEASURE, of St. Paul, offered a resolution which provided for a committee of three to report at the next meeting such measures as would facilitate and improve discussions and the working methods of the Society.

THE COMMITTEE ON PRACTICAL MEDICINE

made a report, of which the most interesting feature was the description by Dr. Leasure of a case of acute cough with fever, accompanied by expectoration of a quantity of phosphatic pulmonary concretions; the patient recovered.

DR. DUNN, of Shakopee, now in Vienna, was appointed a delegate to the International Medical Congress at Copenhagen.

THE REPORT OF THE COMMITTEE ON MEDICAL EDUCATION

deprecated the multiplication of medical colleges, and urged the appointment of boards to examine all physicians without exception.

To a question as to what good had been accomplished by the

STATE BOARD OF EXAMINERS,

DR. MILLARD replied that he had the addresses of two hundred and twenty persons practising medicine who have left the State since the enactment of the law, and that there are but twelve within its limits who have not yet complied with its requirements. A case is now pending in the Supreme Court to test the constitutionality of the law. Dr. Millard said that the Board will protect the profession and endeavor to raise the standard of professional excellence, and asked for support and countenance.

DR. HUNTER presented the

REPORT OF THE COMMITTEE ON SURGERY,

which related chiefly to visceral surgery, and to the management of wounds. Dr. Staples having advocated the treatment of hip-joint disease by leather splints.

DR. BAUER, of St. Louis, addressed the Society upon the subject of that disease; its pathology and treatment. He denied emphatically its diathetic nature or origin, affirming that its cause in almost every case is traumatism. He urged absolute rest, immobility, and, when indicated, tenotomy, as the only rational treatment; extension and counterextension being wholly useless and uncalled for.

Hernia and herniotomy were discussed, and operations for radical cure described.

DR. AYRES, of Omaha, Delegate from the Nebraska Society, reported a case of *Wound of the Internal Carotid* by broken glass. The accident occurred in the street, where Dr. Ayres tied the common carotid, the patient lying on the sidewalk. Recovery ensued, with some facial paralysis.

The Society was entertained at the Sawyer House in the evening, a banquet being tendered by the Washington County Medical Society.

FRIDAY, JUNE 20TH—SECOND DAY.

MORNING SESSION.

DR. CLARK, of Stillwater, for the

COMMITTEE ON OBSTETRICS,

presented a report. He discussed the use of ergot and of anæsthetics in labor, the aseptic management of the puerperal state, and intrauterine irrigation. An animated discussion followed. Drs. Dunsmoor, Hunter, and French expressed grave doubt as to the safety of intrauterine injections, and cases were cited illustrative of their danger. Preference was given to mopping out the uterine cavity with cotton covered with boracic acid or iodoform. Dr. Stone defended the use of injections, and advocated the administration of chloroform in labor, especially when organic cardiac disease exists. Dr. Bauer condemned bichloride uterine or vaginal injections, and would use chloroform freely except in anæmic cases. Dr. Lincoln described a case in which, soon after delivery, a chill occurred, followed by a temperature of 106° The patient was in a shanty on a prairie, where not only irrigation, but even efficient nursing, was unattainable. Twenty grains each of quinia and potassium bromide were administered, and in a few hours the temperature fell to 100°; no other treatment was required. Dr. Lincoln remarked that if irrigation had been resorted to in this case, it would have been credited with the recovery.

Various committees presented reports, which were read by title. That of the Gynecological Committee dealt with cleanliness, the calibre of the urethra, trachellorrhaphy, and tubercle of the peritoneum.

Dr. Owens offered a resolution endorsing the State Examining Board, and pledging the support of the Society, which was unanimously adopted.

A request from the Women's Christian Temperance Union, that a committee be appointed to investigate the subject of Alcoholism and Heredity, was placed on file.

Afternoon Session.

Dr. Fulton, of St. Paul, Chairman of the Committee on Ophthalmology, read a paper upon *Functional Affections of the Eye.*

Dr. Abbott, of Minneapolis, urged the importance of the general practitioner qualifying himself to recognize and treat certain diseases of the eye (*e. g.*, iritis), the diagnosis of which is often made only by a specialist, and too late for successful treatment.

THE ELECTION OF OFFICERS

being in order, resulted as follows:

President.—Dr. J. B. McGaughey, of Winona.

Vice-Presidents.—Drs. F. A. Dunsmoor, of Minneapolis; W. H. Pratt, of Stillwater; and C. A. Wheaton, of St. Paul.

Treasurer.—Dr. S. B. Sheardown, of Stockton.

Recording Secretary.—Dr. C. H. Boardman, of St. Paul.

Corresponding Secretary.—Dr. A. F. Ritchie, of Duluth.

Censors (*for three years*).—Drs. J. C. Rhodes and V. Smith.

After the usual complimentary resolutions, the Society adjourned, to meet in St. Paul on the third Thursday in June, 1885.

NEW HAMPSHIRE MEDICAL SOCIETY.

Ninety-fourth Annual Meeting, held at Concord, June 17 and 18, 1884.

(Specially reported for The Medical News.)

Tuesday, June 10th—First Day.

The Society was called to order by **The President, Dr. John W. Parsons**, of Portsmouth.

After the usual appointment of special committees by the Chair, the Secretary read the report of the meeting of the Council, which was approved by the Society.

The President, Dr. J. W. Parsons, spoke at some length on

THE IMPORTANCE AND WELFARE OF MEDICAL ASSOCIATIONS, ESPECIALLY THE NEW HAMPSHIRE MEDICAL SOCIETY.

He spoke of the influence of associations in advancing the interests of every avocation, and upon the progress of civilization in general, and although much had been accomplished he looked for still greater achievements in the future. Medical associations have their portion of this work to perform, and although they do not make discoveries, they stimulate the members to greater exertions and turn their minds into new and broader channels of thought and investigation.

He then enjoined upon the members that care should be taken not to receive into their offices or admit to their patronage, young aspirants for the medical profession, who fail to exhibit evidence of a proper preparatory education. The doors should be wide open to the educated, but carefully guarded against the entrance of the ignorant, even at the risk of occasionally excluding a brilliant mind.

Dr. C. P. Bancroft, Superintendent of the New Hampshire Asylum, read a paper entitled

INQUIRIES INTO THE CAUSES OF INSANITY, WITH ESPECIAL REFERENCE TO PREVENTION AND TREATMENT.

In opening his paper he discussed the history of insanity during the last fifty years, and made reference to the superstition regarding it in early times. As an outcome of a scientific study of the subject, it has been proved to be as specific a disease as any other morbid condition. Mental disease is governed by the same laws that apply to diseases in general. There is a close relationship between constitutional diseases like phthisis, epilepsy, chorea, etc., and insanity in the same individual. This diathesis at one time may develop as insanity, and at another time as some other disease. He believed that a close relationship exists between chronic insanity and constitutional disease.

Acute mania, in many instances, results from defective habits of life and over-taxing the mental powers. In the New Hampshire Asylum about seventy-five per cent. are chronic cases, which the reader regarded as resulting from hereditary causes. This class, as a rule, is incurable. Of the acute cases, as many recover under practical treatment as get well from other acute diseases.

The reader did not believe that insanity was necessarily transmitted from parents to children, but that oftentimes other constitutional diseases appeared instead. On the other hand, diseases like scrofula, phthisis, syphilis, etc., may not appear in children as such; but other organic changes in the nerve-centres, producing chorea, epilepsy, insanity, etc. Any cause which changes the cell structure of the brain or nerve-centres may produce the disease. This is illustrated in disturbances of the motor nerves which result in chorea and epilepsy. Similar disturbances occurring in the intellectual portion of the brain result in insanity. These hereditary tendencies were implanted in the very foundation of the physical structure of the individual, even though they did not appear for many years afterwards; in some instances a generation or two were passed. The latter is often the case in intemperance, phthisis, etc.

So long as children are born whose parents are afflicted with these constitutional diseases, so long will they be found in every community. If physicians would point out intelligently to every community the impending danger of such unions, much would eventually be accomplished in preventing such results as are now witnessed everywhere. When such constitutional tendencies exist, the physician could do much to avert a manifestation of these diseases by advice to the subject relative to methods of living, work, climate, etc.

DR. EDWARD O. OTIS, of Exeter, read a

REPORT ON SURGERY,

in which he discussed the various methods of antiseptic treatment and antiseptics. He especially called attention to the methods of applying the first bandage with reference to drainage. The elastic bandage was next taken up, and statistics given relative to the results of its use. He reported 55 cases of removal of the breast, in 47 of which the axilla was opened and cleared of enlarged glands. The dressing first applied was allowed to remain until perfect, or nearly perfect healing had resulted in 39 of these cases. In 49 cases of knee-joint resection, the primary bandage was not removed in 34 until nearly healed. Other equally remarkable results were given.

The surgical treatment of pleurisy with effusion, and of empyæma, was next considered. Paracentesis was recommended in the form of a permanent opening, with proper antiseptic precautions. Dr. Cabot's method was given, and his trocar exhibited.

DR. E. S. BERRY, of Dover, read a paper entitled,

RESPIRATORY IRRIGATION IN THE TREATMENT OF EMPYÆMA.

The reader endeavored to prove the value of respiratory irrigation over Listerism, showing tbe value of traction in producing expansion of the lung, and to illustrate the worth and convenience of this method of treating empyæma in private practice. He discussed somewhat the history of the treatment of this disease, by tapping the chest prior to 1850, when Dr. Bowditch advocated paracentesis so strongly. He believed that Listerism was a great advancement in the treatment of this disease, and recognized in connection with it the method of traction advocated by Dr. Cabot of Boston. He reported a case treated by respiratory irrigation, in which a rubber tube was made to enter the pleural cavity and bound firmly in place, with the other end terminating under a solution of thymol. The solution was changed whenever it became turbid. By this method the cavity was irrigated by each respiration as the solution passed in and out through the tube. The traction mentioned was produced by the constant weight of the water in the tube. The patient made an excellent recovery.

The advantages of this treatment the reader summed up as follows: *First.* That septic changes were completely prevented by this method. *Second.* The great value of traction in bringing about an expansion of the lung. *Third.* The ease and facility with which fibrin, clots, etc., were washed from the pleural cavity. *Fourth.* Its advantages over Listerism, and the less expense and attention required in managing the case.

DR. M. C. LATHROP, of Dover, read a paper on

MOTHERS' MARKS.

In the supposed cases of mothers' marks he discussed the opinions of many prominent persons who entertained this popular view of the subject, and who believed that the pregnant woman could receive impressions upon her nervous system which, through reflected action, produced malformations or disfigurations in the child. He believed the theory to be a delusion, notwithstanding Carpenter and Dalton had endeavored to sustain it by theories admitting its possibilities. The whole foundation of such a belief rested upon the difficulties of otherwise accounting for certain congenital defects, which the imagination associated with certain events, or objects, because coincident. Physiology, itself, protested against such a view of the subject. The only connection from the first between mother and child was one of nutrition; aside from that they were distinct individuals. That this avenue was sufficient for conveying the mental shocks or impressions of the mother was very absurd. He believed that hereditary defects, alone, were sufficient and rational explanations of the various conditions usually classed as mothers' marks.

DR. I. G. ANTHOINE, of Antrim, read a paper on

AIDS IN OBSTETRICS.

He regarded chloroform as standing first in the list. Its advantages over ether were many. Its effect was rapid; it was not necessary to produce unconsciousness; it caused less excitement, and was in every way preferable. His method of administering it was from a folded napkin placed in the palm of the hand. He would never give it to the extent of complete anæsthesia. The efforts of the patient were of as much avail as if chloroform had not been given. He had given it about one hundred times and seen no bad results to either mother or child. The reader gave an illustration to show that the os was much quicker dilated by its use even in the earlier stages of labor.

Forceps were of great aid when there was danger of laceration of perineum. When the uterine pains cease it is much better to apply the forceps than to give ergot.

DR. C. R. WALKER, of Concord, read a paper on

ANTISEPTIC SURGERY.

The author concluded that for general purposes carbolic acid or the bichloride of mercury solution was the most feasible for ordinary work. Even when unable to obtain any of the specially prepared dressings, he thought that, aided by the pure air of the country, one should not despair of keeping a wound aseptic by means of cotton or any thickly applied clean absorbent material. He thought that accurate coaptation of surfaces, firm compression and rest were the real secrets of much of the success of all dressings, antiseptic or otherwise. Finally, he claimed that we imperilled our results by too frequent dressings, declaring that the laws governing the strict use of antiseptic materials should govern also the change in all simpler dressings.

WEDNESDAY, JUNE 11TH—SECOND DAY.

DR. EZRA MITCHELL, of Lancaster, read a paper on

GYNECOLOGY,

in which he reported twenty-three cases of lacerated perineum and cervix operated upon by Dawson's method. In eight cases the operation was performed on both the cervix and perineum at the same time, and took, upon the average, about thirty minutes. The advantages claimed for this method are: 1. Much better results; 2. Simplicity of operation, by which any physician of ordinary ability can operate. The cases were reported in detail, and showed remarkably good results.

DR. MARY DANFORTH, of Manchester, presented a

REPORT UPON OBSTETRICS.

This paper was a long and exhaustive one on obstetrical practice in New Hampshire, and embraced a large amount of valuable statistical matter obtained by correspondence with nearly all of the physicians in the State.

The following were then elected

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. John Wheeler, of Pittsfield.

Vice-President.—Dr. Geo. A. Crosby, of Manchester.

Secretary.—Dr. G. P. Conn, of Concord.

Treasurer.—Dr. D. S. Adams, of Manchester.

Executive Committee.—Drs. C. R. Walker, of Concord; George D. Towne, of Manchester; J. R. Kimball, of Suncook.

COLORADO STATE MEDICAL SOCIETY.

Thirteenth Annual Session, held at Denver, June 17, 18, and 19, 1884.

THE fourteenth annual session of the Colorado State Medical Society was called to order by THE PRESIDENT, DR. WM. R. WHITEHEAD, of Denver.

DR. G. J. BULL, late of Colorado Springs, presented through Dr. E. C. Rivers, a paper on *Ophthalmology and Otology*, and Dr. E. A. Lee, of Mt. Collins, a paper on *Compound Dislocation of the Ankle-joint.*

The treasurer reported a balance of $77.

DR. H. A. LEMEN, of Denver, read a paper on *Abdominal Section*, in which he presented the record of forty-eight cases operated upon in Colorado.

THE PRESIDENT, DR. W. R. WHITEHEAD, then delivered the annual address, and scientific papers were presented by Drs. Horn, Cox, Lemen, and Solly.

The following were then elected

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. Hause, of Greeley.

Vice-Presidents.—Drs. Solly, of Colorado Springs; Rogers, of Denver; and Earhart, of Boulder.

Recording Secretary.—Dr. S. A. Fisk.

The Society will meet again next year at Denver.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Special Meeting, June 6, 1884.

THE VICE-PRESIDENT, DR. B. F. BAER, IN THE CHAIR.

DR. WILLIAM GOODELL exhibited specimens of

PYOSALPINX AND HYDROSALPINX.

In the former case, the lady was unmarried and had suffered from pelvic pains and menorrhagia for several years. Last autumn a tumor was discovered by her physician, who deemed it a fibroid of the womb. Early this year her sufferings became so great that she took to her bed. Very large doses of morphia were needed, and septic symptoms now set in. After she had been in bed for several weeks Dr. Goodell was called in to see her. The tenderness of the abdomen was now so great that the examination was made under ether. Even then the diagnosis was obscure, because she flinched and her recti muscles became tense whenever the abdominal wall was pressed upon. A cyst was discovered, but of what nature it was impossible to determine. Dr. Goodell operated on her at his private hospital. The womb was studded with small fibroid nodules; posteriorly, it had an outgrowth as large as a small egg. Closely adherent to the womb, to the pelvic fascia, and to the intestines was a thick-walled cyst of the left ovary as large as the largest orange. The corresponding oviduct was very thick and enlarged to the size of a small sausage. It and the cyst were filled with a very dark purulent fluid, although there was no communication between them. The lower end of the cyst had become necrosed, and was so thinned out that it would very soon have given way at that point. On account of the presence of filroids in the womb, the right ovary was also removed. Attached to the fimbriæ of the oviduct were three very beautiful pedunculated vesicles; while two others, not yet pedunculated, lay in the stroma of the broad ligament. The recovery of the lady was uninterrupted.

In the case of hydrosalpinx, the patient was a widow, aged thirty-seven, who had been sent to him in order to have her ovaries removed. Severe pains began a week before the menstrual flux, culminating during the flow and continuing one week longer, then fading gradually away. For three weeks out of every month she was confined more or less to the recumbent posture, and wholly so during the menstrual week. A tear of the cervix and one of the perineum had been well required by two surgeons, but with no improvement. Dr. Goodell wished her at first to try the rest treatment with message, electricity, and graded muscular movements, for he had repeatedly cured cases of this kind through such a mode of treatment. She was, however, too poor to take this treatment privately and, therefore, was urgent to have her ovaries removed. The operation was performed fifteen days ago, and she is now doing very well indeed. The ovaries, as exhibited, were much enlarged and showed marked follicular degeneration. From this condition Dr. Goodell thought that nothing short of the operation would have cured her. Attached to one oviduct was a delicate vesicle with a thread-like stem of over an inch in length. In view of the frequency with which they are found, he could not but think these vesicles played some *rôle* in the economy, and that they had sometimes a pathological bearing. He had on several occasions met with small post-uterine cysts which burst either spontaneously or under the pressure of an ordinary vaginal examination. Taking anvantage of this fact he had quite recently burst one designedly by bimanual pressure. Such delicate cysts, and also those very movable ones which remained small without increase in bulk, he was disposed to attribute to these vesicles. After bursting, these cysts sometimes refill; one he had known to burst and refill at least six times before it disappeared. Now small ovarian cysts had, in his experience, thick walls, and, further, they rarely remain small any length of time. Dermoid cysts, on the other hand, often remain stationary for years, but they were generally not very movable, and they also had thick walls.

Dr. Albert H. Smith had found these cases of pyosalpinx very difficult of diagnosis. He had been present at an operation by Knowsley Thornton upon a case in which the lesion was double and both tubes and ovaries were removed. Rupture had occurred previously and had been followed by peritonitis. The patient recovered.

Dr. B. F. Baer inquired if Dr. Goodell would recommend rupture of cysts arising from the hydatids of Morgagni.

Dr. Goodell would consider it good surgery for the purpose of preventing the further growth of the cyst. He had always found the fluid in small cysts to be unirritating.

Dr. Albert H. Smith remarked that Schroeder holds that the fluid of an ovarian cyst is not noxious to the peritoneum. He makes no effort to protect the peritoneal cavity from its ingress during an operation, and yet his statistics show a remarkable success.

In response to a query, Dr. Goodell stated that the dressing of the wound after the operation was glycerole of carbolic acid with the Lister gauze.

NEWS ITEMS.

Yellow Fever; Precautionary Measures.—A number of petitions having been received by the Surgeon-General, M.-H. S., from Tampa, Fla., requesting the establishment of a quarantine station at Tampa Bay, the Mayor was notified on June 23d that "An inspector will be stationed at such point as you may direct, to tide over the emergency through the summer. Regular quarantine buildings cannot be built out of present appropriations."

Similar petitions were also received from El Paso, Texas, and the Collector of Customs at that port was authorized, on June 28th, to appoint a Sanitary Inspector at Nogales, and another at Sasabe, to stop emigrants, baggage, etc., coming from the west coast of Mexico until safe from infection. There is great apprehension felt all along the western border, as Mexico fails to keep up either a quarantine system or look after the sanitary condition of her seaboard towns.

Yellow Fever in Mexico and Havana.—A recent letter to the State Department, from the U. S. Consul at Guaymas, Mexico, states that three fatal cases of yellow fever had occurred at that place, but that the disease had not yet appeared at Mazattan or San Blas.

Twenty deaths from yellow fever occurred at Havana, Cuba, during the week ending June 28th. The disease is slightly on the increase.

Progress of the Cholera.—The U. S. Consul at Marseilles has been directed daily to notify this Government, by telegraph, as to the progress of the cholera in France. He reports that the disease has become epidemic at Toulon, and that three cases had occurred at Marseilles, where the population are fast becoming panic-stricken. Precautionary measures are being taken, hospitals established, and preparations made to care for the sick at both places. The latest reports pronounce the disease as true Asiatic cholera. Sanitary Inspectors are to be appointed at the U. S. Consulates in Marseilles, Havre, Paris, Hamburg, Liverpool, and London, for the purpose of giving immediate information relative to the sanitary condition of the places named, and to notify the Department of the departure of vessels, persons, and baggage for the United States.

The Index Catalogue of the Library of the Surgeon-General's Office, Vol. V.—Dr. Billings has just transmitted to the Surgeon-General of the Army the last corrected proof of Volume V. of the Index Catalogue of the Library of the Surgeon-General's Office, and it will be put to press in a few days. This volume, which begins with "Flaccus" and ends with the subject of "Heart," numbers 1055 pages, and includes 15,555 author titles, representing 5755 volumes, and 12,596 pamphlets. It also includes 8069 subject titles of separate books and pamphlets and 34,127 titles of articles in periodicals, making a total in the five volumes of 50,986 author titles, which represent 30,722 volumes of books and 40,075 pamphlets and 49,552 subject titles of separate books and pamphlets, 183,864 articles in medical journals and transactions of societies, together with 4335 portraits of medical men.

By provision of law, copies of Volume V. can be had for $2 each by any one, on application to the Government Printer, provided the application, accompanied with the money, is sent in before the volume goes to press. As no extra copies are authorized by law, and the number printed is limited to those actually needed by the Surgeon-General for distribution to public libraries and for exchange, medical men desiring to avail themselves of this publication should send their orders to the Public Printer before July 15.

Dr. Billings sailed for Liverpool on the Gallia on Wednesday last, *en route* to Copenhagen, to attend the International Medical Congress, as the representative of the Army Medical Department.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 24 TO JUNE 30, 1884.

Clements, Bennett A., *Major and Surgeon.*—Ordered to relieve Major Jos. P. Wright, Surgeon, of his duties as Attending Surgeon at the Leavenworth Military Prison, Fort Leavenworth, Kansas. Major Wright, on being relieved, ordered to report to the Commanding General, Department of Texas, for assignment to duty.—*Par 7, S. O. 144, A. G. O.*, June 21, 1884.

Hartsuff, Albert, *Major and Surgeon.*—(Fort Riley, Kansas.) Granted leave of absence for one month with permission to apply for one month's extension. To take effect when his service can be spared.—*Par. 6, S. O. 130, Headquarters Department of Missouri*, June 25, 1884.

Dickson, Jno. M., *Captain and Assistant Surgeon.*—Assigned to duty as Post Surgeon, Alcatraz Island, California.—*Par. 3, S. O. 71, Headquarters Department of California*, June 19, 1884.

Girard, A. C., *Captain and Assistant Surgeon.*—Granted leave of absence for six months with permission to go beyond sea.—*Par. 11, S. O. 148, A. G. O.*, June 26, 1884.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

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ORIGINAL LECTURES.

A COURSE OF LECTURES ON DERMATOLOGY.

Delivered at the University of Pennsylvania during the Session of 1883–1884.

BY LOUIS A. DUHRING, M.D.,
PROFESSOR OF DERMATOLOGY IN THE UNIVERSITY.

(Reported by Henry Wile, M.D.)

LECTURE IV.

SYCOSIS NON-PARASITICA; IMPETIGO; ECTHYMA; PSORIASIS; PITYRIASIS; DERMATITIS; PURPURA.

SYCOSIS NON-PARASITICA, sometimes called *sycosis* in contradistinction to *sycosis parasitica* (otherwise and preferably known as *tinea sycosis*), is a chronic, inflammatory, non-contagious disease of the hair-follicles, characterized by papules, pustules or tubercles, perforated by hairs, attended with more or less burning.

The area involved may be small or large, and the affection begins frequently in the form of small lesions, spreading from week to week or month to month until it may cover one or both cheeks. It is rare that the whole face is involved simultaneously. The lesions are, for the most part, discrete, the pustules inclining to be flat and little raised above the surface of the surrounding skin; while, when papular or tubercular lesions are interspersed, they are decidedly raised. The regions attacked are the cheeks, chin, upper lip; either one or all. It seldom runs an acute course, but continues chronic, often for years; even where the patch is small, the difficulty in curing it may be considerable. The burning sensation is sometimes marked. The causes are often obscure.

Its pathology is well understood, and the affection consists first of a peri-follicular inflammation, which soon extends into the hair-follicle, and develops finally into a pustule. The hairs are usually firmly seated, and cannot easily be extracted without giving pain.

In the matter of diagnosis it must be differentiated from tinea sycosis, which, as a rule, is not difficult. In the former the hairs are firmly seated, while in the latter they are readily extracted without pain. If extracted in the former, the root-sheath is also drawn out, and is often in a state of suppuration, while this is not the case in the latter, where the hairs are usually dry and sometimes brittle. Finally, in case of doubt, the microscope will reveal the characteristic fungus of tinea sycosis if this disease be present. It is distinguished from eczema in that the latter disease is not confined to the follicles, but is more diffused. There is besides, in sycosis, little discharge; the lesions do not rupture, but dry up. It occurs at all ages between twenty and sixty years, but is more common in early life.

External treatment is often more valuable than internal. In the majority of cases epilation is unnecessary. Some cases do well under mild treatment, as, for example, a lotion of black wash and oxide of zinc ointment; or sulphur ointment, one or two drachms to the ounce. Other cases call for vigorous applications of soft soap, followed by diachylon ointment. Oleate of mercury, five, ten or fifteen per cent. strength, is also useful. The treatment is similar to that of eczema of the chronic papular or vesicular variety. The hairs should be clipped and kept short. Shaving is useful in some cases, but is hurtful in others.

IMPETIGO.—This disease was formerly confounded with what is now recognized as the pustular variety of eczema. It may be defined as an acute inflammatory disease characterized by pea- or cherry-sized, discrete, rounded and elevated firm pustules, not attended, as a rule, with itching. It occurs in children, commonly about the face and neck, and is at times accompanied by slight malaise. The pustules are of a typical character, are whitish or yellowish, and show no tendency to rupture, but dry up, forming yellowish crusts. It may be distinguished from eczema by the fact that in the latter disease the lesions rupture and are attended with more or less itching; also from ecthyma, in which the lesions are considerably larger, with inflammatory areolæ, and occur for the most part on the lower extremities. From impetigo contagiosa it may be known by the different character of the lesions. The treatment is simple, and consists in the application of any mild stimulating ointment. The disease tends to spontaneous recovery in a short time.

Impetigo herpetiformis is a rare and severe disease occurring in both sexes, but especially in pregnant women. It is often preceded by malaise and even fever. The lesions are itchy and multiform, the disease generally taking on the vesicular or bullous form in this country. The herpetiform grouping of the lesions is characteristic. There are but few cases on record; almost all reported by Hebra were fatal. It must be differentiated from eczema, ecthyma, pemphigus, and impetigo contagiosa.

Impetigo contagiosa may be defined as an acute, inflammatory, contagious disease characterized by superficial vesico-pustules or blebs, with pale or dark yellowish crusts. The lesions are inclined to be flat, soon dry up and crust over. The disease runs its course in one or two weeks, appearing, generally, first upon the face, then upon the extremities, attacking children, and is apt to be mistaken for varicella. It rarely occurs in adults as a primary affection, but may be communicated from children having the disease. The contents of the pustules are auto-inoculable, but the cause of the disease is unknown. It is supposed by some to be due to a fungus, but this is denied by other observers. It is liable to occur in epidemics. Treatment is seldom called for, recovery taking place usually at the end of fourteen days or sooner. It must be distinguished from pustular eczema, impetigo, varicella, pemphigus, and herpes iris.

ECTHYMA is a common disease among the poor and neglected. It is an inflammatory affection characterized by large, flat pustules, which soon dry up and form brownish crusts. It occurs generally on the lower extremities, and yields to simple treatment, such as the application of a mild calomel or ammoniated mercury ointment, twenty grains to the ounce. It may be distinguished from syphilis by the absence of ulceration and loss of tissue.

PSORIASIS is one of the most important of the diseases of the skin. It may be defined as a chronic disease characterized by reddish, dry, inflammatory, more or less thickened patches, variable as to size, shape and number, and covered usually with abundant whitish or grayish, mother-of-pearl-colored, imbricated scales. The disease varies greatly as to the extent of its development, but as a rule its characteristics are well marked. It begins in small reddish spots, which soon become scaly. These increase in size slowly, or sometimes rapidly, and, as a rule, are sharply circumscribed. The degree of inflammation varies. Itching or burning, though not infrequently absent, may be annoying symptoms.

The different sizes and shapes of the lesions give rise to the several varieties of the disease; thus, lesions in the form of points, punctata; drops, guttata; coin shaped and sized, nummularis; circles tending to clear in the centre, circinata; and segments of circles, giving a serpiginous appearance, gyrata. Where there are large extensive patches without any special form, diffusa; where large parts of the surface, as the trunk or extremities or both, are chronically involved, inveterata. All regions of the surface may be attacked, but more specially the extensor surfaces and the elbows, knees, back, scalp, and forehead. The palms, soles, and nails may also be invaded. The face is usually exempt. It is non-contagious, and as a rule is found in strong, plethoric, and otherwise healthy subjects rather than in the debilitated. The disposition to its development is sometimes inherited. It never attacks infants, and only rarely appears before the age of eight, and, as a rule, not before fifteen or twenty. It occurs in both sexes nearly equally, and is more common in northern climates. In ten thousand cases of diseases of the skin collected by McCall Anderson, of Glasgow, seven hundred and twenty-five were of psoriasis. It may also be associated with a gouty or rheumatic state.

Pathologically, the disease consists of hyperæmia with hyperplasia of the epidermis, with secondary inflammatory changes in the corium, resulting from pressure. It must be distinguished from eczema, syphilis, tinea circinata, and lupus erythematosus. The sharply defined outline of the lesions, and the presence of the characteristic pearly scales, are usually sufficient to establish the diagnosis.

As to treatment, the constitution and the general condition of the patient must be taken into consideration; also the question as to how much time the patient can devote to the disease, and whether the patient is a child or an adult. Arsenic is our most valuable remedy, and it should be used judiciously and for a long period. Fowler's solution, given in two or three minim doses to an adult for months, will cure many cases. There are, however, examples in which arsenic will aggravate the disease. In these cases sometimes phosphorus, phosphide of zinc, carbolic acid, and tar capsules will prove useful. Also alkalies, as liquor potassæ, ten to twenty drops three times daily, freely diluted. This latter remedy is most useful in many cases.

Local treatment is also of great value. Applications of sapo mollis, or of an alcoholic solution of soap, followed by baths, will often be found useful. Alkaline baths must also be mentioned as serviceable adjuvants in the treatment. In highly inflammatory cases, inunctions with olive oil will sometimes prove efficacious. The most generally useful remedy is tar, in one form or another. Tar ointment is one of our most reliable remedies. Oil of cade, pure or with alcohol, one to three drachms to the ounce, applied with a brush; liquor carbonis detergens; liquor picis alkalinus; oleate of mercury; ointment of the nitrate of mercury; white precipitate ointment; and pyrogallic acid, are all excellent remedies. Chrysarobin is very valuable. It should always be used with caution. It is liable to set up dermatitis of the surrounding skin. It stains a purplish or mahogany color everything with which it comes in contact, and this is its disadvantage. Still, it generally has a very happy effect on the lesions, often curing them rapidly. It is best applied in the following form:

℞.—Chrysarobini, ... ʒj.
Liq. guttæ perchæ, ... fʒx.—M.

Sig.—To be painted on the lesions after the scales are removed. By this means it is held to the lesions, and is less liable to stain. It may also be applied as an ointment, in the strength of from fifteen grains to one drachm to the ounce.

PITYRIASIS RUBRA is a rare disease, having much resemblance both to psoriasis and to squamous eczema. It is an inflammatory disease involving usually the entire surface of the body, and is characterized by deep-red coloration and abundant and continuous exfoliation of the epidermis in the form of large, thin, whitish scales. The disease lasts for months or years, often relapsing from time to time. The uniform red coloration, together with the rapid and abundant exfoliation in the form of extremely thin flakes, with curled-up edges, is characteristic. Treatment in most cases has little effect upon the course of the disease. Internally, arsenic is indicated, and locally mild, non-stimulating ointments may be employed.

Pityriasis rosea is a rather rare disease which has recently received attention from observers. It is inflammatory, occurring chiefly on the trunk, and is characterized by discrete or confluent macules, or, rarely, maculo-papules, varying in size from a pea to a silver quarter- or half-dollar. The lesions are furthermore rounded or ovoid; of a rosy, pale-red or red color; later becoming yellowish or brownish, pigmented and scaly, accompanied by but little thickening of the skin. The scaling is usually furfuraceous. It is non-contagious, non-parasitic; may run an acute course in a few weeks, or, what is much more common, last for months. It is, as a rule, unaccompanied by itching or other subjective symptoms. The disease was not recognized in this country until a few years ago, when Dr. Duhring called attention to its distinctive features. From psoriasis and syphilis it is distinguished by the absence of infiltration, and from tinea versicolor by the absence of fungus. Some French writers claim that it is a parasitic disease, but in none of Dr. Duhring's cases was a fungus found. It runs a benign course, and tends to spontaneous involution. It does not seem to be influenced much by treatment.

DERMATITIS signifies a simple inflammation of the skin without reference to cause, due to such external agencies as heat, cold, cutaneous irritants, caustics, etc. The lesions vary with the cause, the extent of exposure, etc., and may be circumscribed or diffused. The clinical signs of inflammation are heat, swelling, pain, or itching or burning, which are present in varying degrees of intensity.

Dermatitis exfoliativa is a rare affection, and has been described under numerous titles, such as "general exfoliative dermatitis," "recurring exfoliative dermatitis," "desquamative scarlatiniform erythema," "recurrent acute eczema," "acute general dermatitis," and "recurrent exfoliative erythema." There is a great diversity of opinion as to the true nature of the disease. It must be distinguished from eczema, psoriasis, pityriasis rubra, and pemphigus foliaceus. The disease is accompanied with more or less febrile disturbance, and is characterized by localized or generalized acute erythematous, more rarely vesicular or bullous, inflammation, followed by a variable degree of desquamation or exfoliation of epidermis. There is also a tendency to relapse.

Dermatitis traumatica is produced by direct violence, contusions, irritating articles applied to the skin, and excoriations due to the presence of parasites, the latter being generally accompanied by pigmentation.

Dermatitis venenata is a characteristic inflammatory condition caused by contact with poisonous substances. Among the most common causes are the Rhus plants commonly known as poisonous sumach, or dogwood, and poison ivy, or oak. This eruption occurs for the most part about the hands, forearms, face, lower extremities below the knees, and genitalia, and consists of a diffuse erythema, with more or less œdema, accompanied by the appearance of vesicles, blebs, and pustules. Other causes are nettle, arnica, mezerion, goa-powder, mustard, cantharides, hartshorn, croton oil, etc. The eruptions all run an acute course, and vary in intensity in proportion to the susceptibility of the individual. Some persons may handle the poisonous plants with impunity; others again, on the slightest contact, become affected with the eruption. Some authorities contend that the affection is an eczema, but the lesions are different, being multiform, angular, and having a tendency to remain intact, while those of eczema are rounded, soon rupture, and become covered with exudation and crusting. The treatment is simple and satisfactory, external applications alone sufficing. A lotion of black wash, followed by oxide of zinc ointment, or the fluid extract of grindelia robusta, one drachm to two or four ounces of water, are valuable. The lotions are to be dabbed on every two or three hours. Lotions of the hyposulphite of sodium, one drachm to the ounce of water, or sulphate of zinc, two to five grains to the ounce, are also useful.

Not infrequently violent dermatitis is produced by aniline and coralline dyes of undergarments and stockings. Inflammations may also be provoked by individuals upon themselves, with a view to excite sympathy, with nitric acid, which gives rise to a bullous eruption; also with hartshorn and other substances. These are entirely artificial, and are known as "factitious" or "feigned" diseases of the skin.

Dermatitis calorica is an inflammation caused by extreme degrees of heat, and of cold, as in frost-bite.

Dermatitis gangrænosa is an obscure disease of the skin, occurring in the form of circumscribed or diffused patches of gangrenous skin, which, after a variable course, separate as a slough. It is usually accompanied by febrile symptoms, and may terminate fatally.

Dermatitis medicamentosa. Under this head are classed certain kinds of eruptions which may follow the ingestion of a number of remedies in common use. Thus quinine, belladonna, chloral, salicylic acid, and mercury may give rise to an erythematous efflorescence; bromide and iodide of potassium, as a rule, give rise to pustular eruptions, resembling acne, except as to distribution. The lesions are scattered over the body, and are situated around the sebaceous glands, from which the bases of the remedy are eliminated. Copaiba, also, sometimes causes a cherry-red or violaceous erythematous or papular eruption.

HÆMORRHAGIÆ, in mild or extensive form, are met with, from time to time, in the corium. They occur through diapedesis or as an extravasation, and are divided into two classes: idiopathic, or those resulting from external injury, as from wounds, contusions, bites of insects, as the flea, pediculus, etc., and symptomatic, or those which occur as a manifestation of internal disease, *e. g.*, purpura. The characteristic of the lesions of purpura, as distinguished from inflammatory lesions, is that the former do not disappear under pressure.

PURPURA may be defined as consisting of variously sized and shaped, non-elevated, smooth, reddish, hemorrhagic patches, persisting under pressure. There are three varieties:

Purpura simplex consists of small, pin-head-sized lesions, usually occurring on the lower extremities, especially upon the flexor surfaces of the thighs. They make their appearance suddenly, and are accompanied by little or no constitutional disturbance. On disappearing, they leave pigment residue of a yellowish, greenish, brownish color.

Purpura rheumatica is preceded by malaise and rheumatic pains in the joints, especially those of the lower extremities. The eruption makes its appearance suddenly or gradually, and consists of pale-red or reddish spots, varying in size from a split pea to a finger-nail, and are, as a rule, more marked about the arms and legs. It persists a few weeks or months, new lesions appearing from time to time, and as it fades away, the lesions change color, assuming a yellowish, greenish or brownish hue. It must be distinguished from papular syphilis.

Purpura hæmorrhagica, also called land scurvy, is often preceded by constitutional symptoms of a marked character, such as weakness, loss of appetite, headache, and general malaise. The eruption usually appears first upon the extremities, and soon extends upon the trunk, and consists of variously sized, irregular, hemorrhagic spots. Simultaneous with the eruption upon the surface, hemorrhages may occur in other parts, as in the mouth, bowels, etc. The disease may last for days or weeks; it may relapse, and may end fatally. It occurs in children and adults, and is not attributed to bad hygiene or want of vegetable diet, occurring in the strong as well as in the weak.

Among remedies, electricity may be mentioned, which in some cases has proved useful. Ergot, iron, and quinine are all valuable agents. Attention must also be given to diet, which should be as nutritious as possible. Rest should be enjoined, and a horizontal position be maintained.

ORIGINAL ARTICLES.

TRACHEOTOMY IN CROUP.[1]

By GEORGE W. GAY, M.D.,
SURGEON TO THE BOSTON CITY HOSPITAL, BOSTON, MASS.

THE mortality in croup is so great, and the results of all kinds of treatment are often so unsatisfactory, that many members of the profession entertain the opinion, that all their efforts are powerless to save life, or to give even temporary relief. This statement applies especially to the operation of tracheotomy. Always an anxious, and oftentimes a difficult one to perform, requiring the most intelligent, skilful, and unremitting care in the after-treatment, yet it has given more relief, and saved more lives in pseudo-membranous laryngitis than all other remedial measures. Not infrequently the operator will meet with accidents, and occasionally may lose a patient upon the table, yet he may rest assured that, in the long run, he will do more good than harm, and that he will save some lives which would probably have been lost had he not interfered.

It will be the object of this paper to show from the records of the Boston City Hospital for the past twenty years, and from other sources, that the results of this operation are not as unsatisfactory as has been supposed; that surgical treatment offers a better prospect of success, than any other; that a fair proportion of the patients can be saved; and that many more can be greatly relieved by a timely resort to this measure.

The term croup is used here in its generic sense, as meaning an acute laryngeal obstruction to respiration, due to the presence of a false membrane.

Two varieties come to the notice of the surgeon: the membranous and the diphtheritic. The false croup so common in young children can usually be recognized from the fact that it occurs suddenly, and in the night, is paroxysmal, of short duration, less severe in character, yields readily to treatment, and seldom, if ever, terminates fatally. Acute catarrhal laryngitis of adults is not a common affection. The symptoms resemble those of the membranous disease, and may require surgical interference.

As a correct diagnosis of the two kinds of laryngitis under consideration is thought by many to be of great importance in regard to the prognosis and treatment, I may be pardoned a few words upon the subject.

The profession has always been, and still is, divided upon the question of the identity of membranous and diphtheritic croup; one portion claiming that the former is purely a local, and the latter a constitutional disease; while the other portion, with equal tenacity, assert that they are essentially one and the same affection, under different manifestations.

The writer takes the ground that membranous croup is a distinct and separate disease from diphtheria, for the following reasons: It is not contagious; it is a local lesion confined to the air-passages; it causes death by mechanical means; it never results in systemic infection; it has never disappeared from notice for long periods of time, and over a large extent of territory, as has diphtheria.

Much of the confusion that exists upon this question is due to the fact that authorities are not agreed as to what group of symptoms shall constitute either malady. Dyspnœa is the prominent and important symptom common to both. Glandular enlargements, nasal discharges, albuminuria, and paralysis are the distinguishing features of diphtheria, and cases presenting any of these characteristics should not be called membranous croup.

The older members of the profession, who have had opportunities of studying croup at a period when diphtheria was unknown in this country, and whose opinions are entitled to the greatest respect, recognize the marked clinical distinctions between the two affections. The writers of that time generally deny the existence of contagion, and say nothing about glandular complications, or other symptoms of blood-poisoning. The croup of these days was a purely suffocative affection, and it is not reasonable to suppose that a disease of so grave a character as diphtheria should have shown itself in this country for seventy-five years as simply a local, non-contagious laryngitis, and not have presented its most prominent feature, namely, septicæmia.

It is stated by some authorities that an exudation upon the fauces necessarily indicates diphtheria; and that the cervical glands are not implicated while the membrane is confined to the larynx, because of the peculiar distribution of the lymphatics. Dr. John Ware, who wrote a most admirable monograph on croup in 1842, long before diphtheria had made its reappearance in America, reports the presence of an exudation in the pharynx in seventy-four out of seventy-five cases examined with reference to that point. He says nothing of enlarged glands, nasal discharge, or other septic symptoms, as so keen and reliable an observer would certainly have done, had they existed. It is not consistent with the history of diphtheria, that it should have occurred so many times in the practice of Dr. Ware and his contemporaries, without presenting some of its constitutional symptoms.

Fatal cases of diphtheria in which the larynx is not affected are common. Idiopathic croup, on the contrary, is invariably a laryngeal disease, is confined to the air-passages, and causes death by suffocation. In short, membranous croup is simply that, and nothing else; while diphtheria, though occasionally attended with croup, is always something more.

Although I am aware of the fact that a majority of the cases of croup of late years are diphtheritic, and that in exceptional cases it may be difficult to make a differential diagnosis, yet I submit the following statements as the result of my experience and study of the subject:

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[1] Read before the American Surgical Association, May 2, 1884.

First. There is an acute, non-contagious disease of the larynx, characterized by the presence of false membrane, which causes the principal symptom, dyspnœa; and often destroys life. This is membranous, or idiopathic croup, and is of rare occurrence.

Second. There is an acute, contagious affection presenting a similar exudation in the larynx and other localities, accompanied by symptoms of blood-poisoning, such as enlarged glands, nasal discharge, albuminuria, debility, and coma. This is diphtheritic or secondary croup. For twenty years it has been the prevailing type in the United States, and it is very fatal.

Third. There are occasionally fatal cases of acute laryngeal stenosis, in which no membrane is seen during life or at the autopsy. As thickening and œdema of the mucous membrane are present in these cases, they are probably of the same nature, and require the same treatment, as the membranous form.

But while a doubt may exist in the minds of many as to the character of these affections, there can be none as to the duty of the practitioner. It is for him to study the condition of the patient, rather than the name of his malady. The treatment should be based upon the symptoms presented, and not upon a disputed theory of the nature of his disease.

Surgical interference is often necessary to relieve the difficulty in breathing, and, in the opinion of the writer, the cases of probable membranous laryngitis, attended with severe and increasing dyspnœa of over twenty-four hours' duration, are rare, in which the patient, whatever may be his general condition, should be refused the benefit that may result from opening the trachea. It is of the first importance that the mechanical obstruction to respiration should be removed at the earliest moment possible.

Before resorting to any operative measures, it is always well to form some idea of the probable result of the case, if it be allowed to proceed without them. The evidence which I have been able to gather touching the results of the medical treatment of croup, is somewhat conflicting, as will be seen by the following remarks:

Meigs and Pepper report fifteen spontaneous recoveries in thirty-five cases of pseudo-membranous laryngitis, mostly of the diphtheritic variety. Dr. J. Lewis Smith, in twenty-one cases of diphtheritic croup, has had seven successful results without an operation. In speaking of idiopathic croup, Dr. Agnew says: "I am of opinion that, with American practitioners, the recoveries without operation are at least fifty per cent." Dr. Ware's statistics show that thirty cases out of thirty-three, treated by the expectant method, terminated fatally. He did not make use of the depressing treatment, which was in vogue at that time, but relied upon opium, calomel, and steam.

Dr. Cheever, Professor of Surgery at Harvard University, writes as follows: "After reflection, I cannot recall a case of membranous laryngitis that I have known to recover without tracheotomy."

As the result of written inquiries of about thirty prominent practitioners in New England, I have heard of the recovery of between thirty and forty cases under medical treatment, which is a small proportion of cases observed. One physician reports seven cases; another four, another three; several had never seen a case of spontaneous recovery, and they all agree that such results are rare. These gentlemen have been in practice for a period of from thirty to sixty years.

Upwards of four hundred cases of diphtheria have been admitted to the Boston City Hospital during the past eight years. Forty of these patients, suffering from undoubted diphtheritic croup, as indicated by the presence of membrane, glandular enlargements, dyspnœa, and cyanosis, received medical treatment only, and every one died. *Not a single case of pseudo-membranous laryngitis has ever recovered in this hospital without an operation.* In the light of such evidence, I can but conclude that the expectant plan of treating croup is far from satisfactory. On the other hand, the results of the operative treatment are much more encouraging.

The formidable array of statistics given to the profession through the arduous labors of Cohen, Mastin, and others, comprising over eleven thousand operations as collated by Dr. Agnew, prove that from one-quarter to one-third of the cases of tracheotomized croup recover. Cohen reports one hundred and ten successful results out of one hundred and sixty-six cases, mostly in private practice. Drs. Jacobi, Voss, Krackowizer, and von Roth saved fifty out of two hundred and thirteen. Of seventy-nine operations performed by surgeons in Philadelphia, nineteen were successful. Dr. John H. Ripley, of New York, has had thirty favorable results, in one hundred operations. The writer has performed tracheotomy sixty-two times for croup, with twenty recoveries. Twenty-one of these operations were performed in 1883, of which ten were successful. Fifteen cases were in private practice; only one recovered.

Tracheotomy for this disease has been performed one hundred and eighteen times at the Boston City Hospital during the past twenty years. Thirty-nine, or one in three, were successful. That the cases were not selected, is conclusively shown by the fact that three patients died during the operation from shock and exhaustion, not from hemorrhage; thirty-four died within twenty-four hours; and fifty-six, or more than one-half of the fatal cases, within forty-eight hours. Four, if not five, of the successful cases were practically moribund at the time of the operation.

While the records are not sufficiently complete to enable me to give the exact number belonging to each class, yet the diphtheritic variety largely predominated.

The ages of these patients ranged from nine months to forty-one years. The youngest to recover was eleven months; the oldest, sixteen years. Four aged two years, and five aged three years got well.

Membrane was visible in the fauces or trachea in a large proportion of both the successful and unsuccessful cases. Its absence was noted in only three of each class. It need not be said, that in every instance there was present severe, constant, and increasing dyspnœa, exhausting the strength and threatening suffocation.

As a rule, the operation was followed by marked temporary relief; and in many of the fatal cases the difficulty in respiration did not return until the patient was comatose from blood-poisoning, and hence beyond suffering. In a few instances the smaller air-tubes were so extensively invaded by the deposit that no benefit resulted from the procedure.

A large majority of the patients had received appropriate medical treatment previous to entering the hospital, and were only sent there when it had become evident that an operation was the only alternative. It follows, of course, that many of the cases were in a most deplorable condition. It is the rule with us, however, to open the trachea at once, if there is the least prospect that the patient will survive it, and in more than one instance the result has justified the practice. For example, a child came under my care last winter, suffering from malignant diphtheritic croup. There were present faucial exudations, glandular enlargements, foul nasal discharge, dyspnœa, cyanosis, and impending coma. There did not seem to be the slightest chance for success, yet, after some hesitation, the operation was performed. Immediate and entire relief followed, and the child recovered. So many of these desperate cases have been saved at the last moment by different operators, even resuscitation having been followed by success, that a resort to this measure is advisable under almost any circumstances.

In view of the natural antipathy entertained by the public against a surgical operation, it is fair to conclude that few, if any, patients are subjected to this one, until a reasonable trial of other measures has been made; and hence it must be the rare exception that a tracheotomized patient would have recovered without it.

Again, taking into consideration the fatal character of the affection, the unsatisfactory results of the expectant treatment, and the impossibility of determining the cases which would recover spontaneously a resort to this measure is justifiable in urgent cases even if the diagnosis is doubtful. Waiting for a clear diagnosis is, in some instances, simply waiting for an autopsy.

The advantages of an early tracheotomy are, that the patient is better able to undergo it; the strength is preserved, more nourishment can be taken, and more sleep secured; time is gained, in which it may be hoped that the disease will run its course; and finally, it seems reasonable to suppose, as is claimed by some writers, that it tends to prevent those pulmonary complications so common in the later stages of the disease. Other things being equal, early operations will probably give better results than late ones.

Little need be said here as to the best method of performing tracheotomy. Every operator of much experience gradually acquires one of his own. I learned long ago to be chary of the use of ether in these cases, as it may impede or suspend the respiration, and it often increases the shock and prostration. The pain is not very severe, and usually ceases as soon as the skin is divided. With good assistants, the operation can be safely performed in a majority of instances without an anæsthetic.

Having performed the high and low operation many times, I have come to prefer the former because the trachea is more easily reached, there is less danger of hemorrhage, and it is more easily controlled, there is less liability to abscess and emphysema, and because nothing is gained by opening the trachea an inch or so lower, as the obstruction, if present, is at or below the bifurcation. I do not hesitate to divide the cricoid cartilage, or the isthmus of the thyroid gland, and have never seen any harm result from so doing. The trachea is secured with a tenaculum before being incised, thus avoiding the danger of missing it, or of losing sight of the opening, mishaps which are embarrassing, and not uncommon. A moderate sized silver tube with a movable shoulder is always used. This has been worn in the above cases for periods varying from five days to two or three years. None of the patients have been compelled to wear it permanently.

I have found the most satisfactory method of getting rid of the tube to be as follows:

About a week after the operation, if the respiration is free and easy, the canula is quietly removed, and the patient is left undisturbed. No trials are made to ascertain if he can breathe through the larynx. As the wound in the trachea contracts, respiration by the natural channel is gradually reëstablished.

I have never seen a patient die from hemorrhage during this operation, either before or after the trachea had been opened, and I do not think it has ever occurred at the City Hospital. Should respiration become impeded by the presence of blood in the bronchi, we are directed by some authorities to apply our mouth to the wound, and suck it out, or to do so by means of a catheter, or other tube.

Nature gets rid of offending substances in the air-passages, by means of forcible expirations, or cough, and we should try to imitate her. The writer has been called upon to clear the bronchial tubes of blood under the following circumstances: A young man was brought to the hospital, who had shot himself in the mouth, the ball lodging in the back of the neck to the left of the spinous processes. The patient having been etherized, an incision was made, and the bullet was readily extracted. At that moment, however, his face became livid, and he ceased to breathe. The trachea was immediately opened, a large catheter introduced, and air was forcibly blown into the lungs, with the result of driving out a large quantity of blood.[1] Respiration was soon reëstablished, and consciousness returned. The ease and rapidity with which the blood was ejected from the bronchial tubes was as surprising as it was satisfactory.

It is a physical impossibility to suck anything out of the trachea, unless air has a free ingress to supply the vacuum. Forcible distention of the lungs through a tube is attended by a return current of air, the velocity of which is in direct ratio to the power exerted. This effect is much more readily obtained by strongly inflating the lungs, than by suction.

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[1] The source of the hemorrhage was from a wound in the vertebral artery; it did not recur, but the patient died of pleurisy in a week.

Furthermore, in cases of croup, whether contagious or not, no one is called upon to risk his life in trying to suck out the contents of the bronchial tubes. Too many valuable lives have been sacrificed in that way, and in view of the fact that there are other and better methods of accomplishing the object, the plan should be totally abandoned. Forcing air into the lungs from the mouth of the operator is rapid, efficacious, and comparatively safe; trying to empty the bronchial tubes by suction is always dangerous, and rarely successful.

Next to nourishment, I consider steam to be the most important factor in the treatment of these cases. So essential is this agent in my opinion, that I have repeatedly refused to operate in private practice, when it was impossible to obtain a sufficient supply. At the hospital the pipes are tapped, and the steam is conducted through a rubber tube, attached to a frame on castors, and directed upon the throat of the patient. The severe cases are made to inhale it constantly, with the result of softening the secretion, quieting the cough, and often relieving the dyspnœa.

Neither medicated nor atomized fluids have been used of late for inhalation. The effects obtained from the use of warm steam seem to be as beneficial as they were when lime-water, carbolic acid, etc., were in vogue.

It is desirable that two efficient nurses should be in attendance, one to relieve the other, who have had special training, and who are able to remove and replace the outer canula, and clear out the trachea in an emergency. It is not safe to leave these patients in charge of inexperienced friends, while the overtasked nurse is getting her sleep. In short, the service of the sick-room should be quiet, regular, intelligent, and untiring.

In conclusion, I would briefly mention the following reasons for resorting to tracheotomy in membranous laryngitis.

The disease is always dangerous, and very often fatal.

The results obtained from medical treatment alone are extremely unsatisfactory.

Tracheotomy gives more relief, and saves more lives, than any other method of treatment known to the profession.

It seldom hastens death, and still more seldom causes it.

Finally, it affords the friends the great and lasting satisfaction of knowing that everything possible has been done for the patient.

ETHERIZATION BY THE RECTUM.

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THE observations of Dr. Daniel Mollière, surgeon of the Hôtel Dieu, at Lyons, on the method of administering ether by the rectum, published in the *Lyon Médical*, of March 30, 1884, have attracted considerable attention on this side of the Atlantic, and this novel way of producing anæsthesia has been tried in several of our large cities during the past few weeks. Much was expected of the new method, and it was believed by some that it would form a new era in the administration of ether, but the cases in which it has been tried, and the results of which have been published, do not warrant such conclusions at the present time.

In looking over thirty cases in which ether had been given by the rectal method it was found—

Largest quantity of ether given, six ounces; smallest quantity, one and one-half ounces; average, 2.91 ounces.

Minimum time consumed in producing anæsthesia, three minutes (child eight months old); maximum time, thirty-two minutes; average, thirteen minutes.

In twenty cases anæsthesia was produced and maintained by the rectal method only.

In ten cases the inhaler was used in addition to the rectal tube.

Diarrhœa was observed in ten cases, the number of passages varying from three to fourteen; five of these cases had bloody stools, one proved fatal. No diarrhœa in twenty cases.

Stage of excitement absent in sixteen cases; mild, short, or light in seven cases; moderate in five, violent in two.

Vomiting took place once during or after operation in fourteen cases; no vomiting in sixteen cases.

The advantages of the new method appear to be that it reduces the state of excitement, makes vomiting during and after administration much less liable, requires less ether, and offers ready means to estimate the amount given. To patients who have taken ether on previous occasions, the rectal method appears to be more acceptable, since the disagreeable odor of the ether, as well as the feeling of suffocation, is entirely absent. Its adaptation to operations on the neck, face, and head appears to be very prominent.

The objections to the method are that the time necessary to produce anæsthesia is greatly prolonged; that diarrhœa and irritation of the rectum seem to be quite common; and that in some cases inhalation is necessary to produce the desired result. In three cases the effects of the ether were greatly prolonged, and insensibility continued from twenty to thirty minutes after removal of the rectal tube. In one case an hour elapsed before consciousness gradually returned by the use of stimulants hypodermatically and the hot air bath. There seems to be no ready means to relieve the prolonged anæsthesia in such cases. While by the old method the anæsthetic agent can be quickly withdrawn by the removal of the inhaler, or towel, it appears almost impossible to expel the unabsorbed ether vapor from the intestines.

The apparatus employed in the majority of cases consisted of a graduated vessel, or bottle, with perforated cork containing two short glass tubes, one a funnel-tube supplied with stopper, and the other connected by about two feet of rubber tubing with a vaginal nozzle of a Davidson's syringe, or a rectal tube. The bottle contained the ether and was immersed in a pitcher filled with water, so hot as to be uncomfortable to the hands, or of a temperature varying from 110° to 140°. In repeating the experiments with an apparatus similar to the above, it became at once evident that something was required to complete the arrangement, and to indicate whether the process of evaporation was progressing favorably, or whether there was any resistance or obstruction in the tube, or at its outlet. A long U-shaped funnel-tube, the trap of which was filled with ether, and the long end of which reached to the bottom of the vial, was, therefore, substituted for the short tube with the desired result. Any condensation of ether within the conducting pipe, or nozzle, or any other obstruction preventing a free escape of the vapor, as well as too rapid evaporation, being at once indicated by the movement of the ether in the funnel-tube. In renewing the water in the pitcher by simply pouring out some of its contents, and substituting hot water from the top, the apparatus was not only disturbed, but the evaporations of ether became for a short time very rapid, and unequal, owing to the hot water coming directly in contact with the bottle. To this cause may possibly be ascribed the fatal result following anæsthesia by the rectal method in a child eight months old. To amend this defect, a teapot, made of delf-ware, and holding two quarts, was substituted for the pitcher. The colder water was drawn off by a siphon from the bottom of the vessel, and hot water added through the spout, thus favoring gradual rise of temperature. An apparatus of this kind could be made of tin, or any other metal, but it should be constructed on the same principle as a water-cooler, in order to retain heat as much as possible, which is a very important point.

In using this arrangement it was found that at a temperature of 150° two ounces of ether were evaporated in eleven minutes, at 140° in sixteen minutes, at 130° in twenty minutes, at 120° in twenty-four minutes, and these results were only to be obtained by keeping up a steady temperature. The flow of the vapor at temperatures varying from 125° to 140° was steady, and it could be seen to issue, or fall with some force from the opening of the vaginal tube, which formed the end of the conducting pipe. Rubber bags were distended rapidly and equally by the vapor, and the completion of the distention was readily indicated by an upward movement of the ether in the funnel-tube. By allowing the temperature to fall below 115° the distention of the bags was considerably slower, and the vapor lost its power of expansion almost entirely when generated by a temperature of 105°. Of course, the ether continued to boil until the temperature of the water fell below 98°, but most of the vapor produced at a low temperature was condensed before it reached the bags. The bags were kept in warm water at a temperature of 99° to 100°. However well managed, condensation of ether vapor will take place, and this cannot be prevented, excepting the tubes are kept at a temperature above the boiling-point of ether, say 100°. If condensed ether is forced into the rectum, it must produce a burning sensation, and may possibly be the cause of irritation, To prevent this as much as possible, the tube might be removed from time to time, and emptied, or, what is better, the condensed ether might be allowed to escape from a tube, closed by a stopcock, and inserted into the side of the rectal tube, just below where it projects from the rectum. That end of the tube of a self-injecting syringe which serves for the attachment of the nozzles, is usually made with two openings, and answers the purpose admirably.

An earthen vessel of a conical shape, and holding two quarts of water of 130°, will lose about 5° every ten minutes, and it will, therefore, be necessary to add hot water every five minutes, if a nearly steady temperature is to be maintained.

It seems that the method of giving ether by the rectum must be carefully watched, and the thermometer should be frequently consulted. In looking over the cases which have been reported, it is found that in one case, in which the administration was followed by five bloody stools, four ounces were given in twenty minutes, at a temperature varying from 140° to 120°. Experiments prove that a steady temperature of 152° is required to evaporate four ounces of ether in that space of time. In three other cases in which the hand was used to indicate the temperature, anæsthesia was maintained for half an hour after discontinuing the ether, and two of the cases were followed by diarrhœa. The safest temperature is probably between 130° and 120°, and the gauge as well as the distention of the rubber bags indicated that the vaporization of the ether and its expansive power are very steady and gradual at these temperatures. By commencing with the higher temperature, and allowing the process to proceed without the addition of hot water, it was found that two ounces of ether could be evaporated in twenty minutes, and this quantity seems to be more than sufficient to produce complete anæsthesia by the rectal method.

These remarks may appear to be too specific in some instances, but it is believed that the experiments above described will be of practical value in further trials of the new method, and it should be remembered that success in most cases is only to be obtained by paying careful and close attention to details.

THE FRANKFORD ARSENAL, PA.,
May 20, 1884.

MEDICAL PROGRESS.

INJECTIONS OF CITRATE OF IRON IN CHLOROANÆMIA.—*El Siglo Medico* recently published the description of an interesting case of chloroanæmia cured by hypodermatic injections of citrate of iron. The patient had presented symptoms of chloroanæmia since 1879, and had become excessively reduced in weight. It was determined to give dilute hydrochloric acid in gtt. viij doses, and, at the same time, hypodermatic injections of citrate of iron in the proportion of gr. xxx to f℥v of water; ♏xv to be injected in different parts of the body every day. After forty injections the morbid phenomena disappeared, and the patient had gained over twenty pounds.—*O Correio Medico de Lisboa*, March 15, 1884.

DIVULSION OF THE PYLORUS.—On June 9th, this operation was performed, for the first time in Venice, by DR. S. C. BASILIO FRATTINI. Thus far the patient has done well.—*Gazz. degli Ospitali*, June 18, 1884.

THE TREATMENT OF ASIATIC CHOLERA BY INHALATIONS OF OXYGEN.—Reports from Toulon state that resort is being made to inhalations of oxygen in the treatment of cholera now epidemic in that city. In connection with this matter, it may be interesting to cite the following from *A Treatise on Inhalation*, etc., by Dr. J. Solis-Cohen, of this city, first edition, Phila., 1867, pp. 194, 195:

"In the 'Reports on Asiatic Cholera in the Madras Army, from 1828 to 1844,' by Samuel Rodgers, London, 1848, the inhalation of oxygen is spoken of favorably.

"Dr. Wittemeyer, of Nordhäusen (*Deutsche Klinik*, Oct. 13, 1866, p. 306), has suggested the inhalation of oxygen and of the vapor of water, in the stage of asphyxia in cholera. He is led to the employment of these inhalations because the functional activity and absorbent powers of the alimentary canal being impaired, there remains open to us but the respiratory tract by which to convey remedies to the system at large. He considers two indications highly important in this stage of cholera, the first being to convey water to the thickened blood, for which purpose he proposes that the patient shall inhale steam and hot water nebulized from one of Siegle's apparatus, the temperature of the nebulized water being kept sufficiently warm by a flame under the medicine-glass; then, he contends, that as the thickening of the blood impedes the interchange of gases in the lungs, the second indication is to convey oxygen to the blood, which is best accomplished by inhalation of the pure gas. This, he maintains, would have a more promptly excitant action upon the heart than any ordinary medicine that could be administered in another way, and, as a result, the blood would be enabled to circulate through the vessels more rapidly, and become better and better prepared to imbibe the desired amount of vapor of water and of oxygen.

"Dr. Jütte, of Stettin (*Deutsche Klinik*, Dec. 1, 1866, p. 436), commenting on the article of Dr. Wittemeyer, says that he had made the experiment of administering oxygen by inhalation to four adult patients, during the short and severe epidemic which prevailed in and about Stettin in the year 1856, and that the administration had been conducted with great care and sufficient frequency, but that all of his patients died without evincing the least sign of even temporary improvement, and he was so disappointed with the result that he did not pursue the experiment any further."

According to the latest cablegrams from Toulon, the oxygen inhalation treatment has proved unsatisfactory.

THE SUBCUTANEOUS INJECTION OF IRON.—Of all the organic and inorganic salts of iron with which experiments were made, GLÆVECKE found that the citrate of iron is most easily and certainly absorbed. Sulphate of iron is made easy of absorption by the addition of two or three times its weight of citrate of sodium, whilst peptonized iron is very badly absorbed, and ammoniated sulphate of iron not at all. The iron is chiefly excreted by the kidneys, and in small quantities by the liver. It begins to appear in the urine within about one-half an hour after the injection, reaches its maximum in from two to four hours, and disappears in about twenty-five hours. In the urine, iron always appears in the ferrous condition, in whatever form it may have been injected. Bile contains iron in the ferric form. Blood-serum and peritoneal fluid contain it, after injection, both in the ferric and ferrous forms. The aqueous humor contained but little, from which Glævecke concludes that the iron exists in the body as an oxide, and in the form of an albuminate, and only becomes reduced to the ferrous state in the urine.

Glævecke used citrate of iron with good results in ten cases. For adults, the dose for injection is gr. jss, in a ten per cent. solution; for children, the dose is gr. ¾. The solution must be clear, and not over one month old. Large doses cause symptoms of poisoning, general discomfort, and vomiting in about thirty minutes. This treatment was used in two cases of nephritis, with the view of reducing the excretion of albumen, but did no good.—*Centralbl. für die med. Wissensch.*, May 24, 1884.

A CASE OF TÆNIA FLAVO-PUNCTATA.—**DR. E. PARONA** recently presented to the Academy of Medicine in Turin, a very interesting case of Tænia flavo-punctata. The patient was a child two years of age, and an examination of its feces showed ova which somewhat resembled those of the Tænia solium. A dose of castor oil was given in order to clean out the bowels; the patient was then put upon a milk diet, and gr. xlv of the ethereal extract of filix mas, ʒijss of gum acacia, and ℥j of fennel-water administered. About 4⅙ inches of the tænia were passed.

The head was very small, the neck fine and quickly terminating in the body. The cuboidal head measured ½ mm. in diameter; and microscopic examination showed the four hooklets placed above and obliquely, and about 122 by 88 mm. The extremity of the head has no proboscis, but is rounded, and is not on a level with the hooks. The links are short and trapezoidal with rounded angles, and become larger toward the tail. The joints or proglottides, always a little broader than long throughout the whole extent of the body, measure about ½ mm. in the smallest height, and about 3 mm. in the largest. The breadth of the proglottides varies from ½ mm. near the neck, to 4 mm. at the caudal extremity, the decrease in size being quite regular from the tail toward the head. The mature joints contain large numbers of ova accumulated at the margin of the joint, which are so numerous as partly to conceal the ovarian canal. This canal is distinguished by its being more of a clavate form, and more slender at the lateral margin of the joints. The ovarian conduit is always on the same side of the joint, and is recognizable by its yellowish color. The genital apertures could not be perceived, nor were the uterine pouches well defined.

The ova, many of which were obtained from the feces of the child, were oval, of an intense yellow color, and measured 58 and 68 mm. in their two unequal diameters. The protoscolex is very distinct, somewhat oval, provided with hooklets. Some of the ova (embryos?) became amber-colored a few hours after being passed in the feces, and were capable of lively irregular movements. The protoscolex is situated in the middle part of the ovum, occupying about a third of the cavity. The ovum is granular in form, structure, and appearance, thus resembling that of the Tænia solium. The shell of the ovum is formed of prismatic layers, giving it the appearance of a double thickness. The thickness (?) of the shell is a third more than that of the ovum of the Tænia solium.

Parona thinks that there can be but little doubt that this is a specimen of the Tænia flavo-punctata, or flavo-maculata, observed in 1842, by Dr. Ezra Palmer, and examined by Weinland, and afterwards by Palmer and Leuckart. [For a description of a specimen of Tænia flavo-punctata, see the article, by Prof. Leidy, in *The American Journal of the Medical Sciences*, July, 1884.] —*Revist. Internaz. di Med. Chir.*, May, 1884.

HYDROBROMATE OF CONIA IN EPILEPSY.—**MR. R. N. WOLFENFENDEN** reports seven cases of epilepsy treated with hydrobromate of conia. The conclusions he draws from the treatment of these seven cases are—that the drug is undoubtedly serviceable in certain cases, and those in which it fails are cases of convulsious depending possibly on some gross lesion of the brain. The slighter cases were distinctly benefited by it.

The drawbacks to the use of the drug appear in the complaints of headache, and, when in large doses, of giddiness lasting for an hour after taking it, with sometimes a suffusion and congestion of the conjunctivæ. In the doses in which he has given it, there has not been noticed any cardiac or respiratory alteration. It is said that the dose of this drug must not exceed four and a half grains in twenty-four hours, commencing with one and a half grain. In his experience, a child of eight bore one and seven-eighths grain with only headache; a child of seven took one and a half grain per diem, without any complaint; two and a half grains per diem were taken by a female, without complaint; one adult man took three and a quarter grains with impunity. In one case, two grains per diem caused sickness, headache, giddiness, and "weakness" in a young man of eighteen. One and a half to two grains appears to be followed frequently by headache. He thinks the drug deserves further trial, and he hopes to try it more extensively in future. Combined with the constant application of the continuous current, he has successfully treated with it a case of hemichorea. In this case, however, it would be rash to speculate whether the drug, the galvanism, or time was the most effectual in the cure.—*Practitioner*,, June, 1884.

PARTIAL RESECTION OF THE BLADDER.—Following the experiments of Maksimoff, Vincent, Gluck, and Zeller on partial excision of the bladder and suture of the bladder, **SNAMENSKJI**, of Moscow, has made some interesting researches on this subject on dogs, in order to determine how far one can go in partially excising the bladder without compromising the life of the animal.

In his experiments Snamenskji used from two to four provisory suspension-threads in order the better to fix the bladder during the excision and suture. These were also used in partial resection through the whole vesical wall without, as Vincent has experimentally shown, causing any deleterious effects to the bladder at their seats of insertion. In total resection it was shown that the sutures were injurious in the first experiments, since by the tearing of the threads their points of insertion were pulled open and the animal died of peritonitis. Subsequently the sutures were inserted through the serous membrane alone. For the sutures Snamenskji used catgut, Nos. 0 and 1. Beside the deep (sero-muscular) interrupted sutures, he always used superficial glover's sutures, and both sutures were brought by Juillard and Petersen's method up to within two-fifths of an inch of the angle of the wound. For incising the bladder he considers the scissors much superior to the scalpel.

By this method Snamenskji excised the upper half of the anterior wall of the bladder, the whole anterior wall, and a whole bladder with the exception of the part where the ureters entered, and a small part of the anterior wall. All of the animals upon which the last operation was performed died, the majority of peritonitis in three days. Only one dog lived sixteen days. At the autopsy the bladder was found to be pear-shaped, about the size of a walnut; the ureters were dilated to four times their natural size, and the pelves of the kidneys were also dilated. The situation of the sutures could not be seen with the naked eye; only in one place in which the mesentery was somewhat distorted, a thickening of the bladder-wall could be felt. Death took place from uræmia.

The animals upon which partial and total excision of the anterior wall was done lived, with the exception of one, in which case the deep suture was also the glover's. —*Centralbl. für Chir.*, April 5, 1884, and *Lo Sperimentale*, April, 1884.

FIFTY CASES OF TÆNIA.—Dr. Krabbe has published a report of two hundred cases of tænia met with in Denmark. **DR. FRIIS**, of Tönder, now reports fifty cases coming under his personal observation. Of these, forty-two of the parasites were of the order Tænia mediocanellata, six were T. solium, and two (in children one year old) were T. cucumerina.

The T. mediocanellata was found in thirty-two females and ten males. Doubtless a similar proportion would be found in the cases of Tænia solium if a sufficient number of cases could be collected. It would seem that the woman is ordinarily infected by tasting the raw meat for puddings, etc. Friis found, as did Krabbe, that the majority of infected persons are between the ages of twenty and forty years. None of the remedies used was completely inefficacious, and in the case of the Tænia solium almost any of the usual remedies are likely to succeed except the officinal preparation of the extract of male fern, which seems to be very inefficient. In the cases of T. mediocanellata, however, filix mas was the most efficient of all remedies. The second place must be given to pomegranate root, with or without kousso; but this ordinarily requires several trials, which is not the case with filix mas.

Under the use of the rectified ethereal extract of male fern, in cases of T. mediocanellata, the head came away in 10 cases: the worm disappeared in 6; result unknown in 2; no failures. With the ethereal extract of male fern there were 6 failures. With pomegranate root, the head came away 4 times; the worm 4 times; result unknown 1; failures 5. With pomegranate root and kousso, the head came away 3; the worm 2; result unknown 2; failures 2. With kousso, the head came away 1; failure 1. With psaoria, result unknown 1; failures 2. With kamala, failure 1.—*Nordiskt Mediciniskt Arkiv.*, Bd. xvi. Hft. 1–6, 1884.

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SATURDAY, JULY 12, 1884.

THE TREATMENT OF COMPOUND FRACTURES.

Among the noteworthy papers read before the Surgical Section of the American Medical Association, at its recent meeting, is one, by Dr. F. S. Dennis, on the treatment of compound fractures, in which are tabulated 144 cases, without a death from sepsis, and one hundred cases without a death from any cause. Of the entire number 23 are of the skull, 3 of the femur, 58 of the bones of the leg, 12 of the humerus, 14 of the radius and ulna, 9 of the maxillæ, 21 of the bones of the hand and foot, and 4 of the ribs and nasal bones. The favorable results, and the simple measures by which they were obtained, are so conspicuous that they are entitled to a somewhat detailed examination.

Of the 23 compound fractures of the skull, 6 succumbed to shock within forty-eight hours after the injury, so that they were not amenable to any plan of treatment. Of the remaining 17, all of which recovered, 10 were trephined, the lacerated dura mater having been stitched with catgut sutures in one. The wounds were managed openly with carbolic acid, or balsam of Peru.

Of the 61 compound fractures of the thigh and leg, 2 died of shock within twelve hours after their admission, and all of the remainder recovered, despite the fact that 14 underwent amputation, and that in 10 the fracture opened into the knee- and ankle-joints. In one case, indeed, both bones of both legs were comminuted and the bleeding was alarming, while in another both legs and one forearm were broken. Of the 26 fractures of the humerus, radius, and ulna, all recovered save one, which died of shock within twenty-four hours. In 6 amputation was resorted to, and in 7 the adjacent joint was involved. All of the cases of fracture of the maxillæ and other bones terminated favorably.

The treatment adopted by Dr. Dennis includes absolute cleanliness, immediate fixation, and provision for free drainage when necessary. The patient having been anæsthetized, the injured limb is thoroughly scrubbed with soap and warm water, and the wound irrigated with a 1 to 40 solution of carbolic acid, or a 1 to 2000 solution of corrosive sublimate. If the projecting ends of the bone cannot be reduced without too much violence, physiological rest is insured by the subcutaneous section of the tendons of the resisting muscles, aided, if need be, by the removal of the ends of the protruding fragments themselves. Loose spiculæ having been extracted, the wound having been thoroughly washed out with one of the above-mentioned solutions, and the fracture having been adjusted, the opening, if small, is closed with adhesive strips and sealed with collodion, or, if large, is partially united with catgut sutures, a drainage-tube inserted, and covered with iodoform and antiseptic gauze. The entire limb is next enveloped in previously heated Gamgee's absorbent cotton, and the dressing finished with the plaster-of-Paris bandage.

Should the case progress favorably nothing more need be done; but, under opposite circumstances, a fenestrum should be cut over the site of the fracture, and the wound be examined. If the latter be inflamed and the tissues tense, it should be enlarged and washed out with the carbolic or sublimate solution, and be left to suppurate under free exposure to the air, care being taken to keep it absolutely clean and free from all sources of contamination.

The management of compound fractures of the long bones of the extremities, thus outlined, is extremely simple and rational, and the results obtained will compare favorably with the best heretofore recorded. We are unable, however, to understand what Dr. Dennis means when he states that he wishes "it to be understood that I do not undervalue antiseptic surgery," but that the same results are attainable "by other and simpler methods which are within the reach of all," and that "wounds and compound fractures can repair kindly and quickly without danger, though exposed to the air." While it is true that the strict Listerian method was not carried out in his cases, and few practise it now-a-days, it is none the less true that his treatment is, in the strict sense of the term, thoroughly antiseptic, and not the open method of Humphry or James R. Wood. In the majority of his cases, indeed, a fenestrum was not required at the seat of the injury, and when it was, he is most explicit in his directions to enlarge the wound down to the fracture, wash it out with a solution of corrosive sublimate or carbolic acid, keep the parts absolutely clean, and provide free drainage when necessary. If this is not antiseptic treatment, we have failed to comprehend its principles; and, instead of speaking of the open treatment of compound fractures, we fancy that Dr. Dennis, in recording his great success, would have more correctly described his methods had he called them the antiseptic occlusive and the antiseptic open methods of treating compound fractures.

THE CHOLERA.

The recent appearance of Asiatic cholera at Toulon and Marseilles, two of the principal Mediterranean ports of France, leads us to sound a note of warning to those whose duty it is to look after the health interests of our country.

The history of this disease in the past would seem to warrant the prediction of Dr. Koch: "It will reach Germany; it will go everywhere." Its march through India every third, sixth, ninth, and twelfth years, following the pilgrimages to Juggernaut, Hurdware, and other shrines, and its periodical twelve-year visitation to this country, render it quite probable that the disease has started on its course and may reach our shores at any moment. In the last epidemic of 1873, cholera visited the United States before it appeared in Paris.

Then there were many sources of infection—it was first brought to New Orleans by a Bremen bark, and developed in the case of a man employed in unloading her cargo (a native of Pensacola who went to New Orleans for employment). But the larger number of cases were imported directly through New York City on non-infected vessels, but the disease was not developed until the personal effects of the victims had been unpacked at their destination. This was shown in the three distinct outbreaks at widely remote parts of the United States, where the effects of emigrants from Holland, Sweden and Russia were unpacked at Carthage, Ohio, Crow River, Minnesota, and Yankton, Dakota, where, within thirty-six hours thereafter, the first cases of the disease appeared. All these emigrants touched at Liverpool, where they were transferred to vessels bound for the United States.

It will be seen by the foregoing that infected ships are not the only sources of danger, and that the safety of the country greatly depends upon a prompt notification by telegraph of the departure of emigrants bound to the United States from any port in Europe, or of merchandise from infected districts. With this information, and the knowledge we now have of the infection, it is believed that the disease can be kept within very narrow limits—in fact, confined to the immediate vicinity of those who are the carriers of the disease.

By employing 1. Immediate telegraphic notification from Europe upon the departure of emigrant ships from foreign ports; 2. Rigid inspection of such vessels, including thorough disinfection of all emigrants' clothing and baggage upon arrival at United States ports; and 3. Perfect local cleanliness in every port, town, and country village; there need be no fear of the cholera becoming epidemic in this country. There may be a few sporadic cases, but they should occasion no alarm, as the disease is everywhere admitted to be a filth infection, and its antidote is cleanliness.

The National government, through the State Department is obtaining daily telegraphic notification from Europe relative to the progress of the disease, and the departure of immigrants to the United States, and a circular to Collectors of Customs, prepared by Surgeon-General Hamilton, has been issued from the Treasury Department, "requiring evidence that none of the baggage of immigrants or returning travellers has been shipped from the infected districts since June 20, 1884, and a certificate of the local quarantine officer, to the effect that no danger to the public health need be apprehended from allowing the landing of any passenger's baggage, may be accepted as entitling such traveller or immigrant to land his effects."

In addition to these precautions, the President's "Epidemic Fund," under control of the Marine-Hospital Service, is being employed to prevent the introduction or spread of the disease, and to establish quarantines at points of danger. Three United States quarantine stations are now equipped for the work—one at Ship Island in the Gulf, a second in Sapelo Sound on the coast of Georgia, and the third at the mouth of Chesapeake Bay.

It only remains, then, for our local health authorities, and sanitarians generally, to keep alert, to thoroughly and systematically organize a force of inspectors whose duty it shall be to daily patrol the alleys and by-ways of our cities and towns, and follow up their inspections by having all filth and unsanitary matters removed or corrected. Municipal cleanliness, isolation hospitals, and national quarantines, will keep our country free from all epidemics.

MILK SECRETION AS AFFECTED BY SPAYING, BY EXERCISE, AND BY CERTAIN MEDICINES.

Mr. Lloyd F. Abbott recently read before the Suffolk District Medical Society (*Boston Med. and Surgical Journal*, April 3 and 10, 1884), an interesting paper on the increase of milk secretion resulting from spaying cows.

Spaying cows for the purpose of securing a constant supply of milk, uniform in quantity and quality, has probably not been done in this country outside of Massachusetts. Mr. Abbott's attention was directed to the subject by a translation from a French work in 1880; but he learned that the Hon. Josiah Quincy had had the operation performed at his farm twenty years before.

The results of Mr. Abbott's experience are that the operation is not dangerous, and that it increases the flow of milk and improves its quality. The operation may be done by abdominal, or by vaginal incision—the former seems to be preferred—and thus veterinary surgery recognizes the same methods that have been used in the human subject, abdominal and vaginal ovariotomy. But the removal of the ovaries once they are reached, is a much simpler operation in the cow than in the human female—only the thumb-nail being needed in tearing away the organs, and no ligatures are required.

The testimony of the medical gentlemen who discussed the subject when the paper was read, was decidedly in favor of the beneficial influence of the operation upon the secretion of milk. It is claimed that the amount given by a spayed cow will remain the same all her life. This certainly is a matter of great interest and importance; and should it be confirmed by further experience, we do not doubt that this operation will become quite common.

While referring to the matter of spaying cows in relation to the supply of milk, we may also note some investigations of Munk, given in a recent number of the *Archiv f. Anat. und Phys.*, as to the influence of exercise upon the milk secretion of cows. Munk acknowledges that Schmidt-Mülheim is correct in his statement as to excessive exercise lessening the quantity of milk for these reasons. In exercise of this sort the blood current is directed from the gland apparatus to the muscles, there is also a great consumption of material, and chewing the cud is interfered with. He, however, disputes the statement that cows must be kept at absolute rest, in order that the secretion of milk shall attain the maximum. His own observations prove that, as in the nursing woman, moderate exercise increases the secretion of milk by changes in respiration, in circulation, and in digestion, and, hence, the general condition of the animal is better, the appetite greater, and its nutrition improved. The increase in the milk of cows allowed moderate exercise, is not merely in its watery portion, but in the butter and casein.

"The National Dispensatory," p. 1086, states that the mammary secretion is diminished by atropia, and increased by pilocarpin. The recent studies of Hammerbacher, *Pflüger's Archiv f. Physiologie*, show that this statement, especially as to the action of pilocarpin, needs qualification. He finds that after its administration, atropia causes a considerable reduction in the milk mass, but it is richer in solid elements, especially fat, and in seven hours after its administration the secretion becomes normal. Pilocarpin causes a reduction in the milk mass, and the milk is poorer in solid constituents than normal milk; the effect lasts longer than that of atropia, and is to be attributed to the disturbance caused in the general health; the presence of pilocarpin in the milk has not been ascertained.

PARTIAL LARYNGECTOMY.

At the recent meeting of the German Surgical Association, Hahn, of Berlin, recorded five cases of laryngectomy for carcinoma, the entire larynx having been removed in three, and one-half of that organ in two. Of the former, two died of suppurative bronchitis and pneumonia in the fourth and fifth week, and the third was still living at the end of three months. Both of the latter recovered and were free from recurrence, respectively, at the end of three years and a half and nine months. They were wearing a simple canula, and were comfortable, and made themselves so readily understood that they refused to have the wound closed.

Hahn is a strenuous advocate of removing only one-half of the larynx where the limited extent of the disease admits of it. Total extirpation has resulted in twenty-four deaths out of fifty-two cases, while removal of one-half of the larynx has terminated fatally once out of eleven cases. Not only is the latter operation more safe, but it is less frequently followed by recurrence, and the functional results are so much better that the canula can be dispensed with in the majority of instances.

In the discussion elicited by the reading of the paper, Hahn found two warm supporters of his views in Schede, of Hamburg, and Küster, of Berlin. Schede's patient was living eighteen months after excision of the right half of the larynx for carcinoma. He had ceased to wear the canula for nine months, and his articulation was distinct. Küster's operation was for sarcoma, but the speech was hoarse and less clear than in Schede's case. Unfortunately, the time that had elapsed since the operation is not stated.

The paper on "Branny Foods" prepared by Drs. N. A. Randolph and A. E. Roussel, and read by the former before the College of Physicians of Philadelphia, on June 4th, is a valuable contribution to our knowledge of this subject. That the outer three of the four bran coats of the wheat grain contain little or nothing that is nutritious except the salts, and that the rapid peristalsis which they excite when ingested as food interferes with the absorption of the true nutritious substance of the grain, will be a surprise to many. But these facts seem, nevertheless, to have been shown by the authors.

Even the salts, which the authors acknowledge to be lost when the bran coats are removed, are not essential in a mixed diet of white wheat bread with succulent vegetables, in which these elements abound. Hence the lovers of white bread need not feel in the future that they are such grievous offenders against the laws of health.

REVIEWS.

SEVENTH ANNUAL REPORT OF THE BOARD OF HEALTH OF THE STATE OF NEW JERSEY. Pp. 391. Trenton: 1883.

THIS report, which has just been presented to the Governor of New Jersey, is well calculated to maintain the high standing of the previous reports issued by this Board.

The volume opens with a recital of the work done by the Board during the year 1883, written by the Secretary, that veteran sanitarian, Dr. Ezra M. Hunt. His report contains many valuable suggestions.

The record of vital statistics for the State shows a mortality of 23,310 for the year ending July 1, 1883, which is a considerable decrease from previous years, while the marriages and the births have increased.

The Secretary says that "a review of the past year assures us that both the public and the local health authorities are realizing the great significance of health and care, and the value of those improvements which secure good water, proper disposal for decomposable substances, good houses, cleanly habits, and chances for employment deprived of all avoidable insanitary conditions. Several cities and towns have entirely modified their health administration, and others are so agitating the need as to be sure, eventually, to bring about desired results." A truly commendable and encouraging report.

The space at our command does not warrant a detailed account of the many valuable essays in the report, but we shall briefly note a few of the more prominent and interesting papers.

The Secretary contributes an essay on "Health in the Home and its Surroundings," which condenses into a few pages all the positive knowledge we have concerning sanitary house construction, ventilation, heating, drainage, and sewerage. Especial care is taken to point out the necessity of properly selecting and arranging the site. This article will well repay perusal.

Dr. David Warman, of Trenton, has an article on "Modes and Places of Interment," which is not so erudite or diffuse as the recent work by Dr. Stephen Wickes on a similar topic, but calls attention to the danger of interment in built-up portions of cities, and especially the peril of using old cemeteries for building sites.

There is no topic of more importance than the sanitary condition of our health resorts, and the Board has endeavored in its sanitary inquiries to awaken an interest in the subject. The article on this subject is disappointing, in that it does not tell specifically the danger to be feared in the summer resorts in the State. The Atlantic coast may be said to be lined with summer boarding places, and the thousands of people from Philadelphia, New York, and more distant places should be assured by competent authorities as to the healthfulness of these resorts. Most of the seaside hotels are but commercial ventures, hastily and cheaply constructed, and the water-supply and sewerage systems are not of the best. The State Board has, however, made an attempt to indicate in mild language where the more healthful resorts may be found, and where the more dangerous places are. We regret that there is nothing in this part of the report to which physicians contemplating a change of climate for patients may turn for information, and we hope that in the future the Board will devote more attention to this very important branch of their work.

The charitable and penal institutions of the State have been inspected, and in the synopsis given by the Board we find much to approve.

School hygiene comes in for a large share of space, and an exceedingly interesting and suggestive paper is contributed by Principal Green, of Long Branch. His is a practical article.

The diseases and dangers incident to trades and occupations are outlined by the Secretary.

In the summary of reports from local health boards we find that these bodies are in many places doing excellent work. The report from the Paterson local board is singled out as worthy of example.

Thirty-five pages are devoted to a report from the Council of Analysts and Inspectors, from which we learn that the illuminating oil has been been bettered by the system of inspection, and that the State milk inspector is encouraged by an improvement in the quality of the milk sold in the State. Prof. Cornwall furnishes an excellent article on malt beverages. His analyses show that beer and ale are not adulterated, and that the percentage of alcohol varies from 4.4 to 8.6 in these malt liquors.

A list of physicians who have complied with the State law, and who have registered a copy of their diplomas in the office of the County Clerk, takes up some thirty-four pages. To this list we shall refer again.

The Medical Superintendent of Vital Statistics publishes his annual report, together with quinquennial tables of mortality for the five years ending June 30, 1883.

We have thus roughly outlined the more important articles in this very interesting report, which should be read by all who wish to increase their store of knowledge concerning sanitary science.

SOCIETY PROCEEDINGS.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, June 4, 1884.

THE PRESIDENT, J. M. DA COSTA, M.D., IN THE CHAIR.

DRS. N. A. RANDOLPH and A. E. ROUSSEL presented the following

STUDY OF THE NUTRITIVE VALUE OF BRANNY FOODS.

From an economic standpoint the question of the nutritive value of bran is one of great importance, for the removal of this portion of the wheat implies a loss of from seventeen to twenty per cent. in the weight of the grain. In spite of this loss, which necessarily renders white bread more expensive than that made from whole wheat flour, even the poorest inhabitants of most civilized countries where bread is not the staple food, insist upon eating the bread made from the finer grades of flour. A tendency so widespread as this would apparently indicate the unconscious summation of the experiences of many generations, and go far toward proving the propriety of such a selection.

The use of flour representing the entire wheat grain has, however, been long and ably advocated; the reasons given for the retention of bran being that its removal entails the loss of:

I. "Nutritive salts" (Nährsalze of Liebig).

II. Carbohydrates.

III. Proteids, notably gluten.

The facts, also, that branny foods in common with many others will spur an atonic bowel to activity, give due bulk to its contents, and induce the passage of stools of the normal or feculent consistency are noteworthy, but their further consideration is beyond the limits of the present paper. The other reasons for the retention of bran in wheat flour will be discussed seriatim.

I. The fact that fine flour contains a much smaller percentage of salts than does either bran or the whole wheat—a fact evidenced by the relatively small amount of ash which it yields, forms the basis of the theory of Liebig,[1] that in the removal of bran nutritive salts of value are lost. The investigations of Meyer[2] and Foster[3] are often cited as showing that, after the removal of bran, these salts are still present in quantity sufficient for the needs of the economy.

Our experiments upon young pigs, described further on, show that although survival is quite possible upon an exclusive diet of bread from white flour, growth is much more active upon a diet of bread containing a greater amount of inorganic matter. It is possible that Liebig's estimate of the needful amount of inorganic matters was too high, but it is equally noteworthy that there is a tendency on the part of late writers to give insufficient prominence to the importance of these elements of food. It may not be out of place here to mention a striking illustration of the absolute necessity for inorganic salts in the fluids of the economy, as recorded by Dr. S. Ringer.[4] This observer found that while minnows were kept in ordinary tap water they would live for weeks unfed. When, however, they were placed in distilled water they died on an average in four hours and a half. Further, that in a rude imitation of spring water, made by the addition to distilled water of potassium and calcium chlorides, and of sodium bicarbonate, the fish lived on an average about two weeks. Study of the factors in the experiments showed that death was due to a diminution of salts in the economy of the fish. That such diminution, even when very slight, could result fatally, was shown by an analysis of the distilled water after the death of the fish; traces only of inorganic matter being found.

II. The loss of carbohydrates involved in the removal of bran, appears at first sight not inconsiderable, as it amounts to about twenty per cent. of the carbohydrates present in the entire grain. The members of this group represented in bran are starch and cellulose. The former is present in extremely small amount, while the latter, as has been proven by the experiments of Donders,[1] Mulder,[2] and Poggaile,[3] is digestible in any noteworthy degree[4] by the herbivora only. The observer last named subjected a given weight of dry bran to the successive actual digestions of two dogs and one hen, and, thereafter, was able to recover over sixty-five per cent. of its non-nitrogenous constituents. The loss in cellulose was probably much less than that here indicated, for we have found that during the maceration of bran in the digestive tract, certain portions become detached from the main flake, and are with the greatest difficulty recovered.

III. Wheat bran contains a considerable but varying proportion of nitrogenous compounds, averaging however about 14 per cent.[5] This fact has permitted the continued existence of two widely credited assumptions: (*a*) That this nitrogen exists in albuminoid combination, or, in other words, is in a nutritious form; and (*b*) that the proteid matter of wheat is contained almost exclusively in specific cortical cells of the grain—the so-called "gluten cells."

(*a*) Nearly all the existing estimates of the proportion of proteids in food-stuffs are based upon the hypothesis that all of the contained nitrogen is present in some albuminoid combination. The percentage of nitrogen in a given food is therefore ascertained, multiplied usually by either 6.5 (Payen) or 6.33 (Ritthausen) and the result recorded as the percentage of proteid matter. It has lately been conclusively proven that nitrogen in non-albuminoid combination, *i.e.*, in compounds not capable of affording nourishment to any higher organisms, is present in many food-stuffs, and especially in those of vegetable origin. As a case in point, may be mentioned the analyses of Wigner,[6] in which it is shown that of the total nitrogenous matter of the entire wheat grain, 87.9 per cent. is coagulable, *i.e.*, distinctively proteid. Of the bran only 42.4 per cent. of its nitrogenous compounds are coagulable, whereas, in the flour, 89.7 per cent. of these bodies come under the head of true proteids. Yet more marked instances of the inaccuracies attending the ordinary methods of estimating proteids have become evident in the course of researches by Schulze and Barbieri,[7] who find that of the entire nitrogen of the potato but 56.2 per cent. enters into the composition of albuminoid matter, while in the fodder beet only 20 per cent. of its contained nitrogen is thus combined, the remaining 80 per cent. aiding in the formation of amides, nitrates, and ammonia. It is evident from these facts that estimates of the nutritive value of branny and other foods, based upon the percentage of nitrogen present, must be received with caution.

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[1] Chemische Briefe, 1851.

[2] Zeitschrift f. Biologie, vol. vii. p. 33.

[3] Ibid., vol. ix. pp. 293–380.

[4] Journal of Physiology, vol. iv., No. 6, Feb. 1884, in the appended Proc. Physiol. Soc., session Dec. 13, 1883.

[1] Nederl. Lancet, vol. vi. pp. 227, 244.

[2] Physiologische Chemie, p. 1024.

[3] Comptes Rendus, vol. xxxvii. p. 173.

[4] See, also, Weiske (Centralblatt, No. 26, 1870), who finds that a small percentage of cellulose, especially when cooked, is dissolved in the human digestive tract.

[5] Dempwolf, Ann. d. Chem. u. Pharm., vol. cxl. p. 343. His figures, of interest here, are as follows: The amount of nitrogenous matter in the whole wheat was 14.35 per cent. The amount varied in the different grades of white flour from 11.01 to 15 56 per cent. The nitrogenous matter of the two grades of bran made from this wheat was respectively 13.93 and 14.06 per cent.

[6] Der Œsterr. Ungar. Müller, 1879, p. 52.

[7] Quoted by Voit, Hermann's Hdb. d. Physiol., vol. vi. p. 462.

(*b*) The term "gluten cell" is, through a widespread misapprehension, applied to the cells constituting the fourth layer (Parkes) of the wheat grain. These cellular elements exist usually in a single stratum, as irregularly cuboidal bodies in each of which, surrounded by a dense and laminated cellulose wall, is seen the semi-opaque granular contents. Upon the addition of reagents, especially in the form of caustic alkaline solutions, there is almost constantly noticeable a differentiation of the contents strongly suggesting the presence of a nucleus. Under these conditions, also, a coalescence of many of the individual granules forming the contents occurs with the formation of several highly refractive spheroidal bodies, an appearance which has led Payen (as quoted by Dr. Richardson) to use the name oléifères as a synonym for the cellular constituents of the fourth coat. The hypothesis that the cells of this layer are the chief gluten-bearers of the wheat grain is usually attributed to Donders.[1] The return of bran to flour was at about the same period also advocated by Millon and Mége Mouriès.[2]

From this time on, with but few dissenting voices, the "gluten cell" has been generally spoken of as the index of the nutritive nitrogenous matter[3] of the wheat grain, while the central portion included within this layer, and constituting fully 80 per cent. of the grain, has been popularly regarded as being made up almost exclusively of cellulose and starch, and attempts have even been made to estimate the nutritive value of certain cereal food-stuffs by a microscopical determination of the proportion of "gluten cells" present.[4]

The manifest impropriety of such methods has of late been strongly emphasized by Prof. Richardson, of this city, and Prof. Leeds, of Hoboken. The credit of the first disproof of the exclusive limitation of gluten to the cells of the fourth layer, is probably due to Schenk,[1] who treated sections of wheat grain with Millon's reagent, a pink coloration of the endosperm resulting. This coloration was most vivid at the periphery, indicating a gradual condensation of the proteid constituents of the grain as the cortex was approached. The same writer found "no coloration of the 'gluten cells' as a result of this reagent," an observation which we cannot confirm; for, apart from the readily demonstrable slight coloration of the contents of "gluten cells" after the application of Millon's reagent, it is more than difficult to conceive a cell, however specialized, which shall exhibit no proteid matter as a portion of its contents. Schenk also noted in artificial gastric digestions of sections of wheat, that the starch granules which (to a greater extent) fill the cells of the central portion of the grain, became detached, and from this fact deduced the just proposition that the starch granules lay imbedded in some albuminoid substance. In a study of the distribution of gluten within the wheat grain,[2] the senior writer has described several methods for the ocular demonstration of gluten, in very considerable amount, in that portion of the grain included within the fourth layer, and entirely independent of the "gluten cells." The methods were as follows:

If whole wheat grains be macerated in water, to which a few drops of ether have been added to prevent germination, they will, in a few days, become thoroughly softened, and the contents of each grain may then be squeezed out as a white tenacious mass.

Examination of the remaining bran shows the "gluten cells" undisturbed, closely adhering to the cortical protective layers.

By now carefully washing the white extruded mass, the major part of the starch may be removed; and, upon the addition of a drop of iodine solution, microscopic examination shows numerous networks of fine yellow fibrils, still holding entangled in their meshes many starch granules, colored blue by the iodine.

In carefully washed specimens, the sponge-like networks are seen to retain the outline of the central starch-filled cells, and evidently constitute the protoplasmic matrix in which the starch granules lay. Upon gently teasing such a specimen under a moderate amplification, the fibrils will be seen to become longer and thinner in a manner possible only to viscid and tenacious substances—a class represented in wheat by gluten alone.

An eminently satisfactory proof of the proteid nature of these central networks may be obtained by heating the specimen in the solution of acid nitrate of mercury (Millon's reagent), when the fibrils will assume the bright pink tint characteristic of albuminoids under this treatment. The results of the application of the xanthoproteic and biuret reactions are equally conclusive, but more care is required in the use of these proteid tests, and the resultant differentiation is not so clear. Reticuli, similar to those above described, but much broken and consequently far smaller, may be seen upon close examination, scattered throughout fine white flour, without the use of any reagent.

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[1] Nederl. Lancet, iv. 739; vi. 227, 244. Third series, vol. i. 377.

[2] Comptes Rendus, vol. xliv. p. 47.

[3] By general consent the albuminoids of the wheat grain are grouped together as gluten, which is, however, further separable into gluten-fibrin, gluten-casein, gliadin, and mucedin, proteid bodies practically equal in nutritive value, but differing in certain physical properties, notably that of solubility. It must therefore be borne in mind that in all methods of separating gluten from the other constituents of the grain, its (relatively small) soluble portion is removed with the starch, and that any estimate of the quantity of gluten based upon such methods will probably be below rather than above the actual amount. Ritthausen (Die Eiweisskörper der Getreidearten, 1872) believes that a certain amount of true albumen should be included with the constituents of gluten just mentioned. An observation of Denis (Mémoire sur le sang, 1859), confirmed by Hoppe-Seyler (Med. Chem. Unters. 1867) and Weyl (Ber. d. deut. chem. Ges., xiii. 10, 1880), demonstrates that a portion of the proteids of the cereals exists in the form of a globulin. Thus, the observer last named has shown that in wheat flour treated with a 15 per cent. solution of sodium chloride, no formation of gluten occurs. We have found that bran when macerated in 15 per cent. salt solution, yields a considerable amount of proteid matter precipitable by nitric and picric acids. We incline to believe, however, that this is not a true albumen. (See Vines, Journal of Physiology, vol. iii. p. 93.)

[4] E. Cutter, M.D., Galliard's Med. Journ., Jan. 1882.

[1] Anat.-Physiol. Utersuch., p. 32, Wien, 1872.

[2] Randolph, Proc. Acad. Nat. Sci. Phila., Dec. 11, 1883, p. 308.

In even the thinnest sections of the wheat grain, the gluten of the central portion is always masked by large numbers of starch granules. These may to a large extent be removed by immersing the section for a short time in liquor potassæ, with subsequent careful washing. The alkali effects the hydration and partial solution of the starch; but, if its application be too long continued, the gluten will also be dissolved. This treatment is well adapted to show the rather dense gluten networks usually found adherent to bran immediately below the fourth layer.

The most satisfactory method of studying the distribution of gluten in sections of wheat, is that of artificial salivary digestion. If the section be gently boiled for a moment to hydrate the starch, then transferred when cool to filtered saliva, and maintained for from half an hour to an hour at a temperature of about 98° Fahr., all the starch will be dissolved, while the insoluble proteid and other constituents will remain *in situ* and entirely unaltered. The same result may be obtained from a somewhat more prolonged digestion of the unboiled section. A section of wheat grain thus treated will exhibit throughout its entire central portion close-meshed gluten networks, which become slightly denser towards the cortex of the grain. The proteid character of these reticuli is here, as in the first method, susceptible of micro-chemical demonstration. Upon the application of Millon's reagent to such a section, a relatively very faint coloration, indicating the presence of albuminoids, is noticeable in the "gluten cells," while the gradual condensation of the gluten of the endosperm, as the fourth layer is approached, is evident even to the unaided eye.

The fact that the gluten networks become denser towards the periphery of the endosperm, together with the presence of non-albuminoid nitrogenous compounds in the perisperm, explains the notable percentage of nitrogen found in bran as ordinarily roughly removed.

The small proportion of albuminoids present in the cells of the fourth layer as evidenced by their feeble response to the proteid tests, together with the very considerable quantity of gluten which we have shown to exist in the central four-fifths of the grain (*i. e.*, the portion lying within the fourth layer) justifies us in the conclusion that by far the major portion of the nutritious nitrogenous matters exists in entire independence of the "gluten cells."

The difficulties which attend the complete isolation of these cells, however, have as yet rendered impossible any accurate estimation of the proportion of their proteid contents. Admitting for the moment that the "gluten cells" contain albuminoids in any noteworthy amount,[1] there are yet present conditions which seriously affect, if they do not entirely nullify the nutritive efficiency of this portion of the grain.

The first of these conditions is the presence of the rough bran scales which, by increasing peristalsis, so hasten the passage of the entire intestinal contents that complete digestion and absorption are prevented. The second is that owing to the dense cellulose walls of the "gluten cells," their contents are practically unaffected by the digestive juices. The fact that the presence of branny scales in the digestive tract prevents the thorough digestion of the intestinal contents and induces the passage of feces containing a considerable excess of undigested nitrogenous matter is fully attested by the observations of Meyer and Rubner.[1] Edward Smith[2] has also closely studied the ecomonic phase of this subject, and reports most unfavorably upon the use of branny foods, stating that the diminished absorption of nutritive matters, entailed by their use, more than counterbalances the (apparent) gain in cheapness. Of interest in this connection is the observation of Fr. Hofmann[3] who noted that the amount of feces passed upon a meat diet was remarkably increased by the addition of cellulose to the food taken.

The feeble response of the "gluten cell" to reagents and digestive juices, has been noted by several observers. Thus Donders[4] states that these bodies are digested by the herbivora, but not by dogs or man. Similar results are recorded by Poggiale,[5] and for domestic fowls by Meissner and Flüge.[6] J. Lehmann[7] records the feeding of pigs for thirty-two days on bran which contained almost no flour, with a nearly negative gain in weight, although the bran contained 15.5 per cent. of nitrogenous matters.

The ability of herbivora to digest "gluten cells" and similar bodies, is probably due to the relatively powerful amylolytic ferments of their digestive fluids, for it has been demonstrated that pepsin is unable to traverse cellulose.[8] It has also been shown by one of us[9] that the cells of the fourth layer are to all appearance entirely unaffected by prolonged artificial digestions—salivary, gastric, and pancreatic, and further, that their contents were but little changed, and their walls in nowise disintegrated by immersion for some days in strong acids and alkalies.

Lately, however, in the course of an admirable paper upon the nutritive relations of gluten, Rubner[10] has stated that although branny foods increase the amount of nitrogen in the feces, fully three-fourths of the nitrogenous matter of bran is digested. In the bran used there was present 4 per cent. of nitrogen, "equalling 25 per cent. albuminoids," while in the bran obtained from the feces of the persons under observation only 0.9 per cent. of nitrogen was obtainable. We hesitate in criticising the results of so able an observer, but it seems to us that there were two sources of error in this portion of his investigation. In the digestion of bran the free, adherent gluten, which properly belongs to the more central layers, is of course readily dissolved with a consequent reduction in the nitrogen of the bran. Apart from this, however, a loss in nitrogen is to be expected from the diffusion of nitrogenous crystalloids; further, the "gluten cells" become so separated from the true bran, during their maceration in the intestinal contents, so that it is nearly, if not quite, impossible to recover them.

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[1] Apart from the statement of Schenk, above cited, the entire absence of gluten in the cells of the fourth layer has been latterly affirmed by Mége Mouriès, who is quoted by Payen (Substances Alimentaires) to the effect that these cells are "filled with nitrogenous substances of which gluten is not at all one." He finds the cells in question to contain in addition to the salts of magnesium, lime, and potash, a peculiar diastatic ferment, cerealin, whose function is the transformation of the starch of the grain into dextrine and glucose for the nourishment of the germinating seed.

[1] Zeitschrift f. Biologie, vol. vii., ibid. xix., 1883, p. 46.

[2] "Foods," 1875, p. 175.

[3] Voit, Sitzgsber. d. bayr. Acad., Dec. 1869.

[4] Physiologie (German ed.), p. 273.

[5] Comptes Rendus, 1853.

[6] Zeitsch. f. rat. Med., vol. xxxi. p. 185, and vol. xxxvi. p. 184.

[7] Amtsbl. f. d. Handl. u. Wer. d. Königr. Sachsen, 1868, No. 2.

[8] Hammersten, Jahresber. d. Thierchemie, vol. iii. p. 207.

[9] Randolph, Proc. Acad. Nat. Science, 1883, p. 311.

[10] Zeitsch. f. Biologie, vol. xix. 1883, p. 46.

In order to satisfy ourselves regarding the digestibility of the cells of the fourth coat, we have subjected bran with its adherent "gluten cells" to actual digestion by twelve well-nourished adults, six males and six females. These twelve persons were selected from a larger number by excluding all whose feces exhibited under microscopic examination any inefficiency in the amylolytic and proteolytic digestive ferments as evidenced by the presence of starch or muscle fibre in more than a minimal amount. Sources of error arising from individual peculiarities having been eliminated by the number of persons under observation, and the best conditions for digestion having been obtained, these persons then received daily for three days, in addition to their regular food, one ounce of thoroughly boiled bran. Their feces for the last two days of the treatment were submitted to close microscopical examination, with results so nearly uniform as not to require tabulation. In every case the number of "gluten cells" present was more than sufficient to render a diagnosis of the food taken a matter of great ease. In two-thirds of the cases no evidences of disintegration of any of the cells could be found upon repeated examination of many fields from each specimen. In four cases a small proportion (less than ten per cent.) of the numerous cells examined, showed evidences of having been affected by the digestive process, the cell contents having become lighter in color and less opaque. If, however, any true digestion of the cells had occurred, it is evident that many of these elements in different stages of disintegration would have been seen.

As a rule, we found that the several layers of the bran presented an appearance, not of having been digested, but simply of having been subjected to prolonged maceration. Thus the three coats of the true bran while entirely unchanged, were frequently found separated from each other. We had expected to find the fourth layer closely adherent to the third, as is the case in dry bran, but in the majority of specimens these two coats became separated, and occasionally large sheets of "gluten cells," to all appearances perfectly normal, were seen. As a rule, however, that portion of the fecal mass representing the meal at which bran was taken[1] was found to contain these thick-walled cells in nearly every field.

A study of the nutritive relations of a given food may be approached from three sides: First, from that of the exact chemical composition of the food, a knowledge absolutely essential to any scientific scheme of diet. Second, from that of the various excretions of the individual or animal upon the diet in question; and, third, from the more clinical standpoint of study of the effects exerted by a given diet upon the growth and nutritive processes of the organism under observation. After an examination of branny food in the light of the first two methods, we attempted its study by the third. To this end six young pigs of the same litter, and all in fair health, were weighed and placed under the same conditions in pairs, in three separate bins. Those in the first bin daily received bread especially made from whole wheat flour, in amount corresponding to one-fourth pound of dry bread each. To those in the second bin was given a corresponding amount of bread made from wheat whose three external coats only had been removed. The pigs in the third bin received the best white bread in amount corresponding to the standard above mentioned. A sufficient (fixed) quantity of water was given twice daily. The following table shows the weight of each pair at the beginning of the observation, and at the end of respectively ten and thirty-two days thereafter:

Bin.	Age.	Food.	Joint weight March 6.	Joint weight March 16.	Joint gain 10 days.	Joint weight April 6.	Joint gain 32 days.
	weeks.		lbs.	lbs.	lbs.	lbs.	lbs.
I.	6	Bread from whole wheat	24.5	29.0	4.5	33.25	8.75
II.	6	Brown bread from decorticated wheat	24.75	28.25	3.5	34.50	9.75
III.	6	White bread	25.25	27.25	2.0	33.0	7.75

Comparison of these weights exhibits curious and apparently contradictory results, viz., that during the first ten days the gain was greatest in the pigs fed upon whole wheat bread, whereas, at the end of thirty-two days of such feeding the gain was most pronounced in the pigs fed upon bread made from wheat whose three outer coats had been removed. The cause of this variation in results is not far to seek. At the commencement of the experiments the animals were small, and the food given was in each case more than sufficient to replace the waste in both the tissues, and circulatory fluids. Even the pair fed upon bread containing the innutritious and waste-inducing bran, digested and absorbed sufficient proteid matter to supply the needs of the tissues, and normal growth was also favored by the presence of a bulky intestinal contents of a mechanically stimulating nature and also by the nutritive salts which were present in this bread in larger amounts than in the others. On the other hand, at the end of the thirty-two days, the animals had notably increased in size; the food given was then barely sufficient for the needs of the economy, and any conditions impeding its complete digestion and absorption produced a notable effect upon the rate of growth of these young animals.

It must be borne in mind that these experiments relate only to the value of the different breads when taken alone to the exclusion of other foods. The experiments of Rubner before cited leave no doubt that a white bread contains more assimilable nutriment than does one made from the whole wheat, but this does not render it a desirable food-stuff for exclusive use. On the contrary, a weaned, but still quite young omnivorous mammal thrives better upon an exclusive diet of bran bread than on white, and, presumably, because the earthy and alkaline salts are present in greater abundance in the former, and, also, because the indigestible constituents tend to give to the intestinal contents that bulk and consistence which are essential to the hygiene of the digestive tract. But, as has been shown by Edward Smith and others, the branny scales are needlessly irritating, and unduly hasten the passage of food[1] but partially digested and absorbed. The end which popular hygiene attempts to effect by the retention of bran in breadstuffs can be better attained by other means. Thus the nutritive salts of food so frequently lost in ordinary methods of preparation are readily restored by the concentration of the liquor in which meats and vegetables are cooked, into a soup stock, as is practised in almost every French kitchen. Again, the various fresh green vegetables used as salads, yield in abundance these inorganic food-stuffs, the presence of which we have seen is indispensable to normal tissue activity. A further advantage of these and other succulent vegetables lies in the fact that their cellulose, while efficient in giving proper bulk and consistence to the stools, is, as compared with bran scales, soft and unirritating to the digestive tract.

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[1] We did not find it needful to give with the bran any coloring matter to differentiate in the feces the meal at which it was taken, as the scales of bran were always a sufficient index. When requisite, such differentiation may readily be obtained by the method of Cramer (Zeitschr. f. Physiol. Chem., vol. vi. p. 354), or that of Rubner (l. c.).

From the facts, old and new, which have been presented, the following deductions appear to us justifiable:

I. The carbohydrates of bran are digested by man to but a slight degree.

II. The nutritive salts of the wheat grain are contained chiefly in the bran, and, therefore, when bread is eaten to the exclusion of other foods, the kinds of bread which contain these elements are the more valuable. When, however, as is usually the case, bread is used as an adjunct to other foods which contain the inorganic nutritive elements, a white bread offers, weight for weight, more available food than does one containing bran.

III. That by far the major portion of the gluten of wheat exists in the central four-fifths of the grain, entirely independent of the cells of the fourth bran layer (the so-called "gluten cells"). Further, that the cells last named, even when thoroughly cooked, are little if at all affected by passage through the digestive tract of the healthy adult.

IV. That in an ordinary mixed diet, the retention of bran in flour is a false economy, as its presence so quickens peristaltic action as to prevent the complete digestion and absorption, not only of the proteids present in the branny food, but also of other food-stuffs ingested at the same time; and,

V. That inasmuch as in the bran of wheat as ordinarily roughly removed, there is adherent a noteworthy amount of the true gluten of the endosperm, any process which in the production of wheaten flour should remove simply the three cortical protective layers of the grain, would yield a flour at once cheaper and more nutritious than that ordinarily used.

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[1] An observation worthy of mention in this connection is that of Rubner, who finds that while the presence of much woody fibre and harder cellulose in the intestinal contents induces the passage of stools containing an excess of undigested proteid foods, the absorption of fats under the same conditions is not materially affected.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, May 28, 1884.

THE PRESIDENT, WM. H. WELCH, M.D., IN THE CHAIR.

DR. THEOPHILUS PARVIN presented a

REPORT OF THE OBSETRIC DEPARTMENT OF THE PHILADELPHIA HOSPITAL FOR THE QUARTER ENDING APRIL 30, 1884.

He said: During my term of service at the Hospital seventy-two women were confined; this number, however, includes two cases of premature labor, and one of miscarriage at six months and a half; there was one case of twins. In sixty-nine cases the vertex presented; presentation of a foot, of the breech, and of the shoulder, each occurred once; the presentation in the case of miscarriage is not given. Forty of the seventy-two mothers were primiparæ. Of seventy-three children born, thirty-nine were females, and thirty-four males—a preponderance of female births which is at least remarkable.[1] Fifty-one of the mothers were white, twenty-one black. The average weight of the white children was seven pounds and a little more than two ounces; that of the colored children, seven pounds thirteen ounces and a fifth; there was thus a difference of eleven ounces in favor of the latter. The heaviest child was a white one, its mother a primipara; its weight was nine pounds and twelve ounces. Comparing the difference between white male and female children, it was a little more than one pound;[2] while the corresponding difference in black children was only two ounces and one-fifth. Of course, the number of cases observed is too small to allow a positive conclusion, but it suggests that the difference between the two sexes in the white and in the black races in regard to weight of the new-born is much more marked in the former than in the latter. If the results obtained in these limited observations should be confirmed by more extensive ones, we would have a race distinction which is in perfect correspondence with a known ethnological law.

As to the average weight of the new-born, I may repeat what has been published elsewhere. At my request, Dr. Phillips found, from examination of the Philadelphia

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[1] The general relation between female and male births is 100 to 106. Illegitimacy slightly lessens this proportion, that is, increases the number of females born; and this is a factor adding to the number of female births at the Philadelphia Hospital, for illegitimate births are there the more numerous, but still it is not sufficiently potent to entirely reverse the law. This abnormal disparity between male and female births is not a mere accident of the three months, for taking all the births of 1882 and 1883, and adding those of the first quarter of 1884, I find the number is 371, and of these 173 were males, and 198 females. It would be interesting to examine the hospital record for a long series of years, and ascertain if this disparity is the same; and this it is my intention to do.

While referring to the normal relation between male and female births, and the effect of illegitimacy upon it, I may mention the curious contradictions of these laws given by the statistics of Roumania: These show that the proportion of female to male births is 100 to 116, and, further, this proportion is not changed by illegitimacy.

[2] The difference in the weights of white male and female children is greater than it should be from these facts: first, a larger number of female children; second, in two cases of premature labor and in that of twins the children were females, and their weights being small, of course reduced the average.

Hospital records of the white children born there, that this weight was seven pounds four and eight-tenths of an ounce. The number from which this result was obtained was one thousand—five hundred males, and five hundred females. The average weight of the males was seven pounds and seven and nine-tenths of an ounce; while that of the females was seven pounds one ounce and seven-tenths.

The average duration of labor in the black women was very nearly fifteen hours, while in the white it was thirteen hours and twenty-five minutes—showing a difference in favor of the latter of more than an hour and a half, that is, labor is shorter in the white than in the black woman. This result is an unexpected one; nevertheless here again the number of cases is too small to justify a positive conclusion. The duration of labor in white primiparæ was fourteen hours nine minutes; in black, nearly eighteen hours; in white multiparæ, twelve hours forty-two minutes; in black, ten hours sixteen minutes. The duration of the third stage of labor was in the whites twenty-one minutes, and in the colored thirty-three minutes.

And here let me, for the time, at least, lay aside these statistics to consider the conduct of the third stage of labor. The subject invites consideration in this paper by the following facts: One of the colored women failing to expel the placenta within an hour after the birth of her child, the gentleman having charge of the case introduced his hand into the uterus and removed the afterbirth by piecemeal, or at least the greater portion of it. That patient had septicæmia, and infected each of her neighbors; the colored obstetric ward at this time was terribly crowded, the beds so close together that a patient could almost roll from her own bed into the next one.

Shortly after this I was called to a woman in one of the white obstetric wards, who had been delivered of her child three hours before, but the placenta was retained. The patient's pulse was good; there was no hemorrhage, nothing but the simple fact of delay in the third stage of labor. A little friction of the uterus, and compression of its fundus through the abdominal wall, caused the expulsion of the placenta in a few minutes. There was no fragment of the after-birth or of the membranes retained; the genital organs of the patient were not touched either by the *interne* or by myself in this delivery, nevertheless she had septicæmia. Finally, a third patient had the placenta retained for nearly five hours, and then it was expelled. She had septicæmia. These three patients recovered.

In studying the phenomena of placental delivery we find there are three stages, viz.: First, the separation of the placenta from the uterus; second, its extrusion from the uterine cavity after its conversion into a foreign body by its detachment; and, third, its expulsion from the vagina. Delay may occur in any one of these stages, that in the last, of course, being the most easily remedied. The separation of the placenta from the uterus is made by uterine retraction, and probably instead of being marginal in some cases, central in others, is usually general.

A practical question is here presented: Is this separation facilitated by ligating the placental end of the cord; in other words, ought the obstetrician to use two ligatures, or one? The advocates of two ligatures claim that in this case the placenta, being larger, fuller, firmer, cannot so well follow the retraction of the uterus as it can if thin and flexible from the loss of blood, and, therefore, in the former case is more certainly and completely detached. This is doubted by some, denied by others; nevertheless it seems rational. But admitting its truth, it is certain that if a single ligature be used the placenta is smaller, and hence can pass through a smaller uterine orifice; this practice, no matter what its effect upon the first, facilitates the second stage of placental delivery.

After uterine retraction has separated the placenta, uterine contractions expel it into the vagina, while the abdominal muscles, aided, it may be, in some slight measure by the contractions of the vagina, cause its final expulsion.

In the spontaneous discharge of the placenta from the uterus, it does not seem yet settled whether the placenta usually presents the fœtal surface or the margin at the os uteri. The doctrine of Matthews Duncan has probably, for the last few years, been most generally adopted by British and American obstetricians; my own belief is that it is correct—at least in some thirty cases of delivery, taking the method advised by Mr. Duncan to test the presentation, I found in the majority that the placenta descended through the os with its margin presenting. French obstetricians have not accepted Duncan's views; and, indeed, the recent observations of Pinard and others seem to prove that the placenta usually presents by its fœtal surface.

Now a practical lesson from this study of the mechanism of placental delivery is, that adopting the view of Duncan, traction upon the cord—a traction which, of course, is never to be made when the placenta is still attached to the uterus—is mischievous, for it interferes with the normal presentation; but if the normal presentation be that of the fœtal surface, such traction facilitates the second stage of delivery.

The time required for the spontaneous delivery of the placenta, as observed by Kabierski in one hundred cases in the Strasburg Maternity, varied from thirty minutes to twelve hours, as is shown by the following table:

24 times, ...	30 minutes.
20 times, ...	1 hour.
25 times, ...	2 hours.
11 times, ...	3 hours.
9 times, ...	4 hours.
5 times, ...	5 hours.
3 times, ...	6 hours.
2 times, ...	8 hours.
1 time, ...	12 hours.

Few practitioners are willing to trust nature this far, but guard against delay in the delivery of the placenta by following the uterus down with the hand upon the patient's abdomen, according to the expression and the method of the Dublin school, as the fœtus is expelled, thus keeping the hand upon the uterus at least as a sentinel to warn of uterine relaxation, and better still, as a stimulus to, and a reinforcement of, uterine retraction. A general observance of this practice reduces to a minimum cases of post-partum hemorrhage, of delay in the discharge of the placenta, and of hour-glass contraction.

And now, coming to the practical point of more direct interference with the third stage of labor, what circumstances demand it, and how is it to be made?

I believe the teaching of the Philadelphia school has been favorable to early interference—at least such delay as shown by the Strasburg statistics would not have been allowed by her great teachers. Dr. Hodge advised moderate traction upon the cord at the end of half an hour, or of an hour; and Dr. Meigs stated that he never waited for the spontaneous extrusion of the placenta more than an hour and a half, for he always supposed that if it would not take place in one hour, there was little prospect for its taking place in twenty-four hours. Now, with all reverence for the names of these great men, and with, I trust, due personal humility, it seems to me their teaching was wrong. Even moderate traction upon the cord, if the placenta be attached, is liable to do harm, and traction is not necessary to find out whether it is detached. The statistics quoted prove that one cannot make a time-table for nature in regard to placental delivery—she may effect that delivery long after Dr. Meigs's hour has passed.

As long as the placenta is wholly attached, hemorrhage is impossible; the placenta is still a living structure, and one with the uterus; to tear it loose, to detach it directly from the uterus, opens the way for perilous hemorrhage. Not only this, but such artificial detachment is usually incomplete, is liable to injure the uterine tissue, and the operator's hand may be the bearer of septic germs, or these may pass in with the air admitted during the manipulation, and find a congenial soil for their development in fragments of placenta, or blood-clots that are retained in the uterus. Therefore, unless hemorrhage demands immediate interference, the obstetrician refrains from passing his hand into the uterine cavity for the removal of an attached placenta; a completely adherent placenta is not so dangerous as the intrauterine use of the hand for its detachment. I believe, then, that armed expectation is wise in the latter case, only endeavoring, by suitable compression of the uterus with the hand acting through the abdominal wall, to determine or assist that retraction of the organ which is nature's method of separating the placenta. After the detachment of the placenta—a fact which is best learned by feeling a part of the organ with the finger passed into the mouth of the womb—we may, by friction and compression of the uterus, if needed, evoke uterine contractions which will cause its expulsion. Those who believe that the placenta presents its fœtal surface at the os uteri, urge the value of moderate and continuous traction upon the cord, thus assisting the moulding of the mass to the orifice through which it is to come. This conservative view as to the management of so-called retained placenta has been strongly presented by Siredey in his recent work upon puerperal diseases. The common expression, retention of the placenta, means very different conditions, each requiring its appropriate treatment.

Passing now to another topic, the relation of acute infectious diseases to the pregnant, or to the puerperal state, the history of the three months furnishes two cases of measles in pregnancy, and one of scarlet fever in puerperality. A report of the latter will appear in the next number of the *American Journal of the Medical Sciences*, and, therefore, is not presented here. In both the cases of measles the eruption did not appear until after labor, but in each the interval was so short that the disease was present in pregnancy. In one case the disease had no evident effect upon pregnancy, and the puerperal period was normal. But in the other I believe premature labor was caused by the disease, for though no accurate or definite information could be had from the mother as to when the pregnancy began—she was half idiotic—the child was small, feeble, and imperfectly developed. Abortion or premature labor is the result in the majority of cases when measles occur in pregnancy. The second patient had septicæmia, but even with this complication, and though quite ill, made a perfect recovery.

Puerperal temperatures is a subject of importance to which brief reference will now be made. I have here a temperature chart made by Drs. Phillips and Randall, from the charts of twelve women in whom puerperal convalescence was undisturbed; the chart includes eight days of the puerperal period. The highest temperature was on the fifth day, and then it was only 98⅘°.

Temperature record from two daily averages of twelve cases of normal recovery from labor. The first temperature is that of a woman delivered within the preceding twenty-four hours:

Morning,	98.4	98.4	98.2	98.2	98.2	98.4	98.0	98.2
Evening,	98.8	98.8	98.8	98.4	98.9	98.8	98.4	98.4

There were opportunities for observing the influence of apparently trifling causes in producing marked elevations of temperature. Thus one patient, whose condition was normal, insisted upon getting up the fifth day and dressing herself; she did so notwithstanding the remonstrance of the nurse, and her temperature rose to a little above 100°. Either from feeling badly, or possibly from the moral influence of the thermometer, she was willing to return to her bed. Another patient, doing well apparently, save that her temperature was 100°, got up the fourth day; her temperature rose to 103°; she returned to bed; her temperature in a few hours was only 100°, and in two days was normal. In another case an irritant cathartic, or that which proved to be such, the bitartrate of potassium, was given the fifth day, and for a short time the patient's temperature was nearly 105°, but the next day it was normal. On the other hand, the gravity of a case may be much greater than the temperature indicates. Thus in a patient with fatal septicæmia the temperature during the first five days only once rose as high as 101°—a part of the time was only 99°—on the sixth day rose to 102⅕°, on the seventh fell to 101°, and then on the morning of the eighth was 103⅕°; she died that day. In the abstract of a paper by Dr. Angus Macdonald (*British Medical Journal*, May 10), the statement is made that in some of the worst and most rapidly fatal cases of septicæmia, the temperature never rose over 101°, if so high. The explanation given was that the vital centres were attacked with such a quantity of the poison that death occurred before the tissue-changes ending in heat took place. Dr. Macdonald further referred to the important difference in the course of temperature in lymphatic and in phlebitic septicæmia; there being in the former a single rigor with sudden and continuous high temperature, and in the latter a series of successive rigors, followed by corresponding depressions. Siredey has previously remarked that a temperature chart of a patient having puerperal septicæmia, will readily show whether the disease is the lymphatic or the phlebitic form. When Osiander, at the beginning of the present century, and others since him, described remittent puerperal fever, doubtless they had under observation cases of phlebitic septicæmia. I am sure these sudden and marked declines of temperature have led practitioners into false diagnoses, especially since attention was redirected by two distinguished American physicians to the occurrence of malarial fever in childbed; we would much rather believe a patient had this disorder than septicæmia, and such desire may assist the diagnostic error, an error I know that I have committed, and I have more than once witnessed its commission.

The occurrence of a chill at the onset of septicæmia is by no means a constant phenomenon. While Dr. Macdonald refers to a chill marking the advent of lymphangitis, Siredey regards it as always present in phlebitis, usually but not invariable in lymphangitis; it is multiple in the former, single in the latter. The cases observed at the hospital show that a chill was not constant in septicæmia, even in a fatal form of the disease. While we may in some cases, by the great variations in temperature, be able to diagnose between septicæmic phlebitis and lymphangitis, there are decided oscillations in temperature observed in the latter, though much less than in the former; and beside, some cases present the combined forms, lymphatics and veins alike affected.

The cases of septicæmia were too few, and the discrimination between lymphangitis and phlebitis not always made, to permit me to give a positive opinion; nevertheless, it seems to me probable that in lymphangitis the oscillations of temperature are always such that the thermometer marks a higher degree in the evening; while in phlebitis, the highest temperature occurs quite as often in the morning as in the evening.

Tarnier remarks that momentary elevations of temperature do not generally involve an unfavorable prognosis; but when they are progressive and continuous, especially when the thermometer placed in the axilla goes above $100\frac{4}{10}$°, some complication is to be feared. One of the subjects delivered at the hospital had a slightly subnormal temperature. She was a girl, eighteen years of age, who, three hours after a normal labor, had a temperature of 99°; this fell, so that on the third day it was only 98°, and so continued for a week. During a part of this time her pulse was 56, and even only 48.

The presence of albumen in the urine of the pregnant woman has often, even generally, engaged the attention of obstetricians; but comparatively little concern is usually shown as to its presence during labor, or in the puerperal state. Possibly, it may be quite as important to examine the urine of the lying-in as of the pregnant woman, especially if she has had even slight septicæmia. But first, how frequent is albuminuria in pregnancy? In seventy-two pregnant women albuminuria was found in five. It will be observed that this proportion is very much less than that given by Charpentier,[1] quoting Dumas, who, combining the statistics of several observers, makes the proportion one to five or six. It seems to me, both from hospital statistics and from observations in private practice, this proportion exaggerates the frequency of the accident.

By the albuminuria of labor is understood not only the disorder as occurring during labor, but also that of the two or three days immediately preceding. This is very much more frequent than the albuminuria of pregnancy, but the cases examined with reference to this point were too few to determine the proportion. Seven of the seventy-two women had albuminuria after labor; I think the number was much greater, but some of the women suffering with septicæmia did not have the urine examined until after convalescence, and the results of the examinations made in others were not properly kept, or at least were not placed in my hands. In three of the seven mentioned the albuminuria was slight and transient. In four women convalescing from septicæmia, the urine was found to be albuminous one month after delivery. Two had pus, blood, and hyaline casts in the urine; in a third, no pus, but blood and casts were present in the urine; as to the urine of the fourth, the microscopic appearances were not noted. In regard to two of these patients, I know that the catheter was first used after their being brought from the "fever" to the "convalescent ward," and, therefore, the explanation which Olshausen has suggested of the renal disorder fails in these cases—catheterism had nothing to do with its causation. In explanation of these cases, it is probably better to accept the teaching of Siredey, who regards puerperal nephritis as a constant complication of uterine lymphangitis or phlebitis.

Women may apparently, but not really, recover after pregnancy and labor; especially if there has been septicæmia, is there a liability of renal disorder becoming chronic, and it is only by actual examination of the urine that the integrity of the kidneys can be determined.

Mauriceau compares the pregnant woman just before labor to a ship that has been nine months tossing upon a rough sea, and urges the importance of not letting the ship sink as she enters the port of childbed. It is not less the duty of the obstetrician to know that the ship has not suffered such damage on the ocean or in the port, that she is unfit, without important repairs, to run the risk of another voyage.

Sugar in the urine of pregnant and of nursing women was first shown to occur by Blot in 1856. Differences of opinion hold as to the constancy of its presence in the conditions stated, as to its source and as to its character. Macdonald found it in each of thirty-five cases whose urine was examined, and, therefore, regards it as present in all cases at some time or other of the puerperium. But neither Kleinwächter nor Spiegelberg refers to it as always present. In the examinations made daily of the urine of fifty women at the hospital (these examinations began a few days before and continued seven days after labor), four women had sugar in the urine before labor, and six after labor, one of the six being also one of the four. In this woman the sugar was constantly and largely present up to eight weeks after delivery; she had remarkably well-developed mammary glands, and a most abundant secretion of milk. In this case Blot's suggested test for a good nurse—to wit, the quantity of sugar contained in the urine—would have proved true, so far as abundance of milk was concerned.

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[1] Traité des Accouchements.

It has been shown that abrupt suppression of nursing causes the appearance of sugar in the urine; thus it is commonly observed in mammary abscess.

The fact that removal of the mammary glands in an inferior animal recently delivered, causes disappearance of sugar from the urine, proves that it is incorrect to call the cases in which sugar is found in the urine in pregnancy or childbed, cases of glycosuria, but rather of lactosuria, unless we attach only the literal meaning to the first word in the compound glycosuria. Spiegelberg refers to the condition as an absorption diabetes; and this seems the opinion of most authorities. Tarnier, however, regards as very plausible the hypothesis that the sugar eliminated by the kidneys was sugar made, very probably, by the liver in view of the lacteal secretion, and which was not utilized in consequence of the momentary suppression of this function; further, he thinks new researches necessary, in addition to those of Hofmeister and others, to determine the question as to whether this sugar is glucose or lactose.

Whenever there is an exact correspondence between the milk supply and the demand, the former not being in excess of the latter, it is probable sugar will not be found in the urine; I think, therefore, that the experience of Macdonald—showing saccharine urine in all cases of lying-in women—is not the law.

An interesting case of secondary puerperal hemorrhage occurred—interesting as to its etiology, and instructive as to the means by which it was finally arrested.

The following is the history as given by Dr. Voorhees, the *interne* who had charge of the patient:

A. A., German, single, primipara; varicose condition of veins of lower limbs, this condition disappearing after labor. Labor at full term, March 5, 1884, lasting a little over twelve hours. Her condition was perfectly satisfactory up to the evening of the eleventh day after confinement; on that day she was transferred to the convalescent ward, and then saw the out-door agent as to keeping the father of her child in prison for refusing support. She was greatly distressed by this interview, and at 4.30 the next morning hemorrhage began. Digital examination showed that the blood came from the uterus; the os was high up, flabby, and full of clots; the uterus was as large as if delivery had just occurred, and was soft and relaxed. Ergot was given; the child applied to the breast; the uterus was emptied of its clots, and friction used to stimulate contraction, but the bleeding still continued. Ice was then used to the abdomen, and in the vagina; the bleeding was not stopped. Hot water was then freely thrown into the uterus and the result was prompt and satisfactory. The patient made a good recovery. Although the uterine discharges were carefully examined, at no time was there any organized material found, nothing in the least indicating that this hemorrhage was caused, for example, by the retention of a placental fragment.

Those who have read Dr. Fordyce Barker's admirable lectures upon puerperal diseases, will remember the graphic description of a case of secondary hemorrhage the second day of lying-in, caused by an emotional cause, and in what perilous condition the poor woman was for some days. So too in the hospital case we have an example of hemorrhage from a psychical case. Believe or doubt as we may, say what we will, there are at times in medical practice just such sudden, startling, and strong proclamations of something more than flesh and blood in this human nature, telling us that the coarse material may be prostrated through the finer spiritual, the psychical assert its power over the physical.

Further, as to this case, the great value of hot-water injections for the arrest of uterine hemorrhage never had a more striking illustration.

The final subject presented to you is that of uterine rupture. In reflecting upon the history of my three months' service, no event occurred in my duties to these unfortunate women—women often worthy of the profoundest pity as the victims of misfortune, and of man's perfidy—which causes me greater sorrow in silence or in recital than a case in which the uterus was ruptured in consequence of a shoulder presentation, a case which ended in death the eighth day after delivery. Yet I would fail in duty to my profession that has been so good, so generous to me, if I did not make the case fully known. The patient was a well-formed healthy multipara; she had been in labor nearly twelve hours when I first saw her, the left shoulder presenting. Ether was immediately given until she was thoroughly under its anæsthetic effect; and then, without violence, nay, with great ease, I passed two fingers behind the right knee, brought the foot down, and turning and delivery were effected in a few minutes; the placenta followed almost immediately; the child, quite a large one, was dead. The patient came out from the anæsthesia satisfactorily; her pulse was good; there was no complaint, no shock, no great hemorrhage. Yet that woman had a ruptured womb, the tear beginning at the os uteri on the right side, involving the cervix and the lower part of the body of the uterus, this condition being made known by the post-mortem. If it be thought I ought to have known this accident at the time of delivery, I can only say that like ignorance happened to Dubois, to Hervieux, to Tarnier, and others—the first revelation of the uterine rent being made at the post-mortem; these silent tears of the womb are, as Hervieux has suggested, probably more frequent than generally thought. No, my self-reproach is not in this, but in not having made myself, or by another, an examination during pregnancy, so that the abnormal presentation could have been corrected, if not then, at least early in labor. But let this pass. The great practical lesson to be drawn from the accident is not only the importance of an early rectification of a malpresentation, but also an appreciation of the danger of rupture of the uterus, and how this accident occurs. A drawing which was shown gives the position occupied by the child, and also and especially gives the change in form and thickness of the two cavities of the uterus, which, as so admirably described by Bandl, are formed when nature is unable to overcome the obstacle to labor found in such case. The one cavity is formed by the body of the uterus, and its walls become thicker and stronger; the other, by the cervix, and its walls grow thinner—become indeed so attenuated and weak that a very slight additional strain causes a tear at some point; that strain may come from a uterine contraction, or solely from the introduction of the finger: and thus peril from action, peril from delay must be before the obstetrician's mind when called to a case of neglected shoulder presentation.

Of course, had I seen this patient an hour or two earlier, the event might have been different. The pressure of the presenting part had been so severe that a slough of the vesico-vaginal wall occurred, and the patient, had she recovered, would have required an operation for the resulting urinary fistula; I have thought that possibly the uterine rent was in part the result of a slough also; but be this as it may, there was not the slightest indications given at the post-mortem that any hemorrhage into the abdominal cavity had taken place.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Special Meeting, June 6, 1884.

The Vice-President, Dr. B. F. Baer, in the Chair.

Dr. Goodell gave the following history of a

CASE OF HYSTERECTOMY.

The woman was unmarried, aged 47. Her monthly fluxes began to be free in 1867. A year ago they became so exhausting that she could not pursue her trade as a seamstress. On April 30th, she consulted Dr. Goodell, who found the whole abdomen filled with multiple fibroids. The cervix had disappeared and the os uteri lay so high up that it was not possible to introduce the sound. The operation was performed at the hospital of the University of Pennsylvania on May 22d. One outgrowth as large as the two fists contained a cavity filled with cheesy matter, and was so adherent to the abdominal wall and intestines as to need the knife for its release. It was possibly the right ovary, but he was by no means certain. Kœberlé's wire clamp was passed around what corresponded to the neck of the womb, but it was as large as his arm above the elbow. The woman's recovery thus far has been uninterrupted. The temperature reached 100° but once. The clamp fell off on the 16th day, leaving a very deep, funnel-shaped pit. He had intended to exhibit the specimen, but it was too bulky to carry, and also had become quite offensive. In this case, had he been able to reach the ovaries or to have discovered them, he would have removed them in preference to performing hysterectomy; but the firm adhesions prevented the rotation or the lifting up of the tumor, hence the ovaries were inaccessible. Sometimes even when the uterine fibroid can be lifted out of the wound and the ovaries reached, these organs are so imbedded in the fibroid, or so drawn out in ribbon-form on the surface of the tumor, as to make their complete removal impossible. When, however, the ovaries can be removed with safety the operation is a most promising one, as he could attest from several most successful cases.

Dr. W. T. Taylor reported the following case of

PARTIAL PLACENTA PRÆVIA.

Mrs. S., an English woman, aged 46 years, the mother of ten children, came to see him in December, 1883, in consequence of abdominal pains, headache, and vertigo, with a suppression of her menses, which she attributed to a "change of life," as she had been irregular for a year past. She also had numbness with tingling in the hands and feet, and had not been so affected in any former pregnancy. Consequently she would not believe in her condition until some weeks later, when she quickened. In the month of February last she had enlargement of the veins of the legs, with œdema of the feet and ankles, for which she took occasional doses of potassium bromide with a solution of cream of tartar (one ounce to the pint of water). By this treatment she was temporarily relieved.

On March 27th, she had abdominal pains and a profuse hemorrhage, which saturated her clothing and greatly alarmed her. On examination he found the os uteri high up and slightly open. Although the hemorrhage diminished, yet the pains would recur at intervals, and he fully expected labor would soon begin. Under the use of equal parts of wine of ergot and solution of sulphate of morphia, she began to get easier, and in a few days was out of bed and able to resume her household duties; feeling more comfortable, as the enlarged veins were smaller, her feet and ankles had diminished in size, and the headache gone entirely. I told her that nature had come to her relief and bled her without my ordering it.

Feeling satisfied that this was a case of placenta prævia, and that there was no immediate danger, I concluded the most prudent course was to let nature alone and wait until labor began. She had no more trouble until May 10th, when she passed a large clot of blood and complained of slight pains in the abdomen, these occurred occasionally for two days, when the membranes ruptured, and a sudden gush of water, followed by a flow of blood, indicated that labor had begun. On examination, I discovered within the os a spongy, ragged, bleeding mass of tissue, which was recognized as the placenta; with each pain the flow of blood increased as the cervix dilated. Sweeping my index finger around within the mouth of the womb, as far as I could reach, to detach the placenta from the uterine walls and assist the first stage of labor, I felt the fœtal head beyond.

To arrest the bleeding, which, if it continued, would exhaust the mother and destroy the child, I plugged the vagina completely with strips of old muslin, well saturated with lard, and waited patiently for the os to dilate and the head to advance, giving at the same time occasional doses of quinine and wine of ergot as a tonic and stimulant. In about an hour the advancing head had expelled a part of my tampon and on removing the remainder I found that the bleeding had ceased and the vertex was presenting in the left occipito-posterior position. Auscultation revealed a feeble fœtal circulation, but as the pelvis was roomy and my patient somewhat exhausted, I gave her freely of milk punch until her pulse became stronger, which it did in half an hour, when, as the head had ceased to advance, I applied the forceps and delivered her of a medium-sized girl, which in a few minutes began to cry with some vigor, contrary to my expectations, for I had told them it would probably be dead. Its vitality had been preserved by the adhering part of the placenta, which then came away quite easily. A teaspoonful of fluid extract of ergot contracted the womb firmly. My patient was weak for several days, but under the use of tonics with nourishing food, she soon recovered her usual strength.

Dr. A. H. Smith remarked that this case being partial and without profuse hemorrhage, could have been best carried through by rupturing the membranes and bringing down the head, which would have stopped the hemorrhage as soon as it engaged in the superior strait. Dr. Smith asked the question : Under what circumstances are we warranted in interfering? If the hemorrhage is alarming and the patient exhausted, she is in a poor condition to bear interference, and, on the other hand, we have no right to interfere if there is no pain or hemorrhage. To interfere by manipulation is very dangerous, unless the uterine contractions are rapid and effective after labor once begins. The position of the child should be carefully and accurately determined by external manipulation before interference becomes necessary, so as to know where to seek the feet, if turning becomes imperative. When the placenta prævia is complete, dilatation of the os causes a terrific hemorrhage, the blood streams from the patient like water from a hydrant, or a small fire-plug, and death comes very quickly. Only perfect knowledge of the condition of things, and the position of the child will enable the physician to avert the doom. Now, as to the tampon. I would not use it. It hides the hemorrhage, which may be going on profusely behind it as was so vividly described by Dr. Goodell, in his paper on "Concealed Accidental Hemorrhage of the Gravid Uterus," in vol. 2 of the *American Journal of Obstetries*, in which he showed that the woman might bleed to death without one drop of blood escaping externally. The tampon conceals the hemorrhage without necessarily preventing it, and while it remains in place one hand of the physician should be constantly on the patient's pulse to note instantly any failure of the heart; while the other should be on her abdomen to note any changes in size of the uterus, or position of the fœtus. In Dr. Taylor's case the treatment was beyond criticism, because the result has been happy.

Dr. Goodell agreed with Dr. Smith that placenta prævia is the most formidable complication in obstetrics. No general rule can be made applicable to the treatment of all cases. In partial ones, the membranes should be ruptured and the head brought down. It must always be borne in mind that in these cases the implantation of the placenta has caused increased vascularity and thickness of the cervical walls; they are easily ruptured, and if torn bleed profusely. There is greater danger of septicæmia from absorption of decomposing lochial discharges when passing over this surface, if it is torn. He well remembered one case which he attended years ago in consultation with Dr. Augustin Fish, since deceased, in which, in consequence of what he now considers undue haste, lacerations of the cervix occurred and, although the labor terminated happily, septicæmia set in a few days later and resulted fatally. It would have been better in that case to tampon. When the placenta is not central there is very little danger—there is some. The tampon may be used, but the pulse must be constantly watched and frequent abdominal palpation should be made. He had been struck with the method practised by Dr. Ellwood Wilson more than twenty years ago. It consisted in gentle digital dilatation of the os; introducing first one finger then two, and so on; as soon as sufficient space was obtained he gave ergot, made podalic version and delivered. Very few practitioners advise that method. Dr. Goodell had not met with many cases, and the one spoken of above was the only fatal one. He has used Barnes's dilators, taxis, strength, and courage, and has tried to adapt his treatment to the indications of each particular case.

Dr. W. H. Parish thought the tampon was not used as frequently now as it was a few years ago, either in the form of Barnes's dilators, or the vaginal plugs. Under similar circumstances he would probably do as Dr. Taylor did. Partial placenta prævia is not very dangerous, but in complete the hemorrhage is excessive. In one case he had tamponed for several hours when, the os being dilated, he etherized and rapidly delivered a living child. The mother was in imminent danger of death from hemorrhage. The abdominal aorta was compressed, ice was used to the cervix, but without success. The hemorrhage was controlled by the application of a cloth wet with Monsel's solution to the denuded cervical and uterine surface.

Dr. Taylor has used the tampon in several cases of partial placenta prævia and in numerous cases of abortion, and has never yet had bleeding to go on behind it. The line of treatment practised in this case has always proved satisfactory as regards results.

Dr. Goodell remarked that the womb at term was large, and concealed hemorrhage might be free enough to cause death, but there was no such danger in an abortion at two or three months.

Dr. B. F. Baer exhibited a specimen of

SUBMUCOUS AND INTERSTITIAL UTERINE FIBROID,

and read the following report of the case: Mrs. G., æt. 51 years, married, four children. Her first child was born after she had reached her thirtieth year, and the last one when she was thirty-eight, thirteen years ago. Her labors were very severe. Several years ago she began to lose large quantities of blood with her catamenial periods and to suffer severely with labor-like pains. This continued with increasing quantity and severity until the cause was removed. Two years ago she had so great a flooding that it was thought for weeks that she would succumb. She gradually recovered from the immediate effects of the hemorrhage, but has been losing flesh and strength ever since. Moreover, as soon as she would recover a sufficient amount of strength to support it, a severe metrorrhagia would recur. Recently she had rarely been free from bleeding and a profuse non-fetid watery discharge.

At the request of my friend, Dr. Fred. C. Seiberling, the family physician, I met him at the home of the patient, at New Tripoli, Lehigh County, Penna. When I saw her for the first time, she had a sallow, jaundiced and anæmic looking surface, was somewhat emaciated, but did not have the characteristic cachectic appearance of carcinoma. Her pulse was 120, and not strong. As she was too weak and excited to permit of a thorough examination without it, ether was at once administered by Dr. J. W. Seiberling, when the following condition was revealed by physical exploration: The upper portion of the vagina was occupied and distended by the cervix uteri, which was stretched and expanded over a firm rounded mass which presented at the os; the latter was dilated to about the size of a silver dollar, and the body which presented resembled very much in size and shape the head of a seven months' fœtus. Bimanual examination showed the uterus to be as large as at the end of the sixth month of gestation and rather symmetrically developed, but it was quite firm and resisting, if not hard. The sound could not be introduced for the following reason: On the right side the tumor was firmly attached to the cervical wall all the way to the external os, and on the left almost to the same extent, though here I was able to pass the sound and finger to the depth of about an inch. I confirmed Dr. Seiberling's diagnosis of submucous fibroid, and thought, from the size of the uterine globe as outlined by abdominal palpation, that the tumor had also a deep interstitial attachment or *nidus*. I advised an attempt at enucleation of the growth as the only means of saving the life of the patient, and, with the assistance of Drs. F. C. Seiberling and W. K. Kistler, I proceeded with the operation. I was at a loss at first to explain the close connection which the tumor had with the cervical walls, a connection so intimate that it seemed in part to grow from that organ, but the history of the growth of the tumor was against that idea; the patient had been under close observation at least four years, during most of which time the cervix was free from disease. There had been no evidence of abnormal growth in the cervix until six months before the date of operation; about that time the tumor was detected at the internal os. I thought that the close connection with the cervical wall might have been due to adhesive inflammation, and acting on that theory I began my operation by trying to separate the adhesions, but I soon found that I had made a mistake and that I was dissecting up the tissues of the cervical wall. I then concluded it must be the capsule of the tumor which had been stripped off by the growth as it was made to advance towards the external os by contractions of the uterus, and this view was confirmed; for when I had removed the tumor, the capsule hung as a curtain from the edge of the external os. After vainly endeavoring to deliver the tumor by traction, I cut directly into it with scissors, dividing the mass into two portions. I then introduced Thomas's spoon-saw into the cavity, and with it and my fingers I tore the growth from its nest in the fundus and sides of the uterus, removing it piecemeal. Very little hemorrhage occurred during the operation, which occupied fully an hour and a half. After trimming the ragged edges of the capsule from around the os, I injected the cavity with vinegar and packed it full of sponges saturated with the same excellent antiseptic and hæmostatic. A gr. ss morphia suppository was placed in the rectum, the patient removed to her bed and surrounded by bottles of hot water. She reacted nicely, and in the evening ten grains of quinine were given. On the next day the sponges were removed, the cavity irrigated with carbolized water and repacked as before. Under the care of Dr. Seiberling the patient has recovered without an untoward symptom. The tumor probably weighed three pounds.

STATE MEDICAL SOCIETY OF WISCONSIN.

Thirty-eighth Annual Session, held at Milwaukee, June 3, 4, and 5, 1884.

(Specially reported for The Medical News.)

The State Medical Society of Wisconsin, held its Thirty-eighth annual session in Milwaukee, June 3 to 5 ultimo, the attendance being good and the spirit of the meeting excellent.

One evening was wholly devoted to clinical work, with exhibition of cases, specimens, etc., and demonstrations of work, proving one of the most profitable features of the session.

Several of the papers which were presented were thoroughly discussed, among them one by Dr. Brett on the *Treatment of Fractures of the Lower Extremity*, and another by Dr. Ladd on *Conservative Treatment of Injuries of the Hand*. An active and profitable discussion was also aroused by the *Report on Pathology*, in which the writer, Dr. Steele, took the ground that there is not yet sufficient reason for the conclusion that the bacillus is the sole and only cause of tuberculosis, holding that long-continued clinical observation by many careful and accurate men, has shown that there may be other causes efficient to produce tuberculous disease, citing especially those occupations in which dust is constantly inhaled. While conceding to Koch profound ability and genius, and acknowledging that the tubercle-bacilli will produce tuberculosis, he believed that it has not yet been demonstrated satisfactorily that tuberculosis cannot be produced by other causes and contended that the clinical evidence that it may be so caused is too strong to be overthrown without further evidence and experiment.

These views were vigorously opposed by Dr. Senn, who held that the causal connection of the bacillus with tuberculosis was as thoroughly proved as any fact in clinical medicine can be, and that tuberculosis where-ever found is invariably produced by specific germs—that the presence of this bacillus is not only the sole cause, but also the most reliable diagnostic criterion.

Dr. Epley introduced a resolution concerning the relations of medical men to courts of justice as expert witnesses, and a committee was appointed to consider this question and to report what changes in the law are needful to secure reasonable compensation for witnesses summoned to give testimony solely as experts.

Papers were read on *Acute Dysentery*, *Uterine Fibroids*, *Inversion of the Uterus*, *Anthrax*, *Alcohol*, *New Remedies*, *Lithotrity*, etc.

Twenty-two new members were admitted to the Society. Its next meeting will be held in Milwaukee.

THE OFFICERS FOR THE ENSUING YEAR:

President.—Dr. E. W. Bartlett, of Milwaukee.

First Vice-President.—Dr. S. L. Marston, of Fond du Lac.

Second Vice-President.—Dr. G. M. Steele, of Oshkosh.

Permanent Secretary and Treasurer.—Dr. J. T. Reeve, of Appleton.

Censors.—Drs. J. K. Bartlett, N. Senn, Wm. Thorndike.

NEWS ITEMS.

WASHINGTON.

(*From our Special Correspondent.*)

Recent Legislation.—The following bills affecting the public health have become laws: To establish a bureau of animal industry; prevent the exportation of diseased cattle; and provide for the suppression and extirpation of pleuro-pneumonia and other contagious diseases among domestic animals. The following were incorporated in the Sundry Civil Apppropriations Bill: To authorize the President, in case of threatened or actual epidemics, to use the unexpended balance of appropriation made by the Act of August 7, 1882, and March 3, 1883, in aid of State and local boards of health, or otherwise, in his discretion, in preventing and suppressing the spread of the same, and maintaining quarantines at points of danger; to prevent the admission to the Government Hospital for the Insane of inmates of the Soldiers' Home who are now, or may hereafter become insane; to provide for the appointment of a scientific commission, which may, in the name of the United States Government, conduct a National Conference of Electricians in Philadelphia in the autumn of 1884; to authorize the National Academy of Sciences to receive and hold trust funds for the promotion of science and for other purposes.

The following proposed legislation failed: To provide for the inspection of meats intended for exportation, and to prohibit the importation of adulterated articles of food and drink, and to authorize the President to prohibit importation in certain cases; House bill proposing that the use of distilled spirits be restricted to scientific, mechanical, and medicinal purposes; House bill to purchase the Seaman's Retreat Hospital and grounds for marine-hospital purposes; House bill to reënact the Quarantine Act of June, 1879 (which expired by limitation), giving the National Board of Health certain powers and assigning certain duties to it—reported adversely. A provision in the Sundry Civil Bill, with Senate amendments, appropriating $25,000 for the National Board of Health, and to carry on certain investigations, was stricken out in Conference Committee.

NEW ORLEANS.

(From our Special Correspondent.)

THE NEW ORLEANS MEDICAL AND SURGICAL JOURNAL has been reorganized, so far as the editorial department is concerned. Three of the old corps retire, and the remaining two unite with eight others to form the New Orleans Medical Publishing Association. Those who have undertaken this work are active and well-informed young physicians, who promise a good journal.

THE JOINT CONFERENCE OF THE BOARDS OF HEALTH OF THE GULF STATES AND OF TENNESSEE was held here some two weeks ago. This was a plan of the new President of the New Orleans Board to establish harmony and concert of action between the various Boards of the Mississippi Valley and the cotton States. The order of business included discussion of: 1. Maritime quarantine; 2. Coöperation between States; 3. Quarantine and commerce; 4. Non-intercourse; 5. Period of detention; 6. Treatment of infected and non-infected vessels; 7. Disinfection; 8. Legislation; and 9. Inter-State and local quarantine. The session lasted three days, and the discussions apparently resulted in harmony. Under the Louisiana law, *detention* is the declared principle of quarantine as at present administered. The limit is fixed at forty days, and our new president detains all tabooed vessels for this period. His object in thus enforcing the law is to encourage legislation changing the law from detention merely to scientific disinfection.

In this connection we quote from his address to the Board, April 24, 1884, "There are those, and I announce myself as of their number, who hold that it is possible, and experience abundantly justifies the declaration, that yellow fever may be called into activity in New Orleans without recent importation, or importation at all, as far as we are able to decide." If it is endemic, of course all quarantine is unnecessary. But I believe Dr. Holt thinks yellow fever may also be imported. Consequently, his forty days' term is to starve out this invasion wing of the enemy's forces and prevent their combination with indigenous allies. Quite a number of competent medical observers believe with Dr. Holt that yellow fever may be of *de novo* origin in New Orleans. This belief rests upon the unassailable fact that many outbreaks have occurred in regard to which importation could not be established. These circumstances so often attend outbreaks of all infectious maladies as to suggest as the most easy explanation the endemic origin as characteristic of this class of disease.

THE TULANE BILL, merging the various departments of the University of Louisiana, including the medical department, into an institution to be called the Tulane University, has almost passed the Legislature. It will still have to be voted on by the people as an amendment to the Constitution, but its immediate effects will be to put the Tulane administrators in charge of the various departments. Changes will doubtless be made in the courses of study as well as the methods of teaching, which, with the munificent endowment, will place the University of Louisiana in the front rank of institutions of learning which are well endowed and well systematized.

THE TEMPERATURE has been peculiarly low in New Orleans, both absolutely and especially as compared with the other cities and towns of this district. No good explanation of this fact has been given, except that the city is so thoroughly surrounded by water, including the overflowed district just across the river. Malarial fevers are unusually few in number, but small-pox still claims about ten a week. Alarmists recall the fact that 1878 was a counterpart of this year in so far as the temperature and rainfall (the latter excessive now) are concerned, and, therefore, yellow fever is unavoidable. Intestinal disorders are everywhere rife, and many children are dying with cholera infantum. The city is not very cleanly, and these daily rains prevent the sun from drying the filthy gutters, masses of garbage, and unclean yards of the lower classes. This is a matter of much importance in sanitation in this city. Remember, in the first place, the river is higher than the city, and, therefore, we must drain from the river to the lake; and, in the second place, the fall from the river to the lake, a distance of from five to seven miles, is only ten or twelve feet. Underground sewers are inadmissible; we, therefore, drain by open gutters. Sewer gas is thus unknown to us, but it is impossible to flush all the gutters, and those not flushed become long lines of stagnant putridity.

THE MORTALITY figures for the week ending June 28th was as follows: white males, 63; white females, 47; colored males, 42; colored females, 38; total, 190. This is an annual death-rate of over forty per thousand of population.

CHOLERA.—A dispatch from Toulon dated July 7th, states there were nine deaths from cholera during the past twenty-four hours and that the cemeteries are kept open at night to allow speedy burials. A Marseilles dispatch of same date gives sixteen deaths from cholera during twenty-four hours last past, and that twenty cases had been taken to the hospital. The Consul at Calcutta reports one hundred and fifteen deaths from cholera at that place during the two weeks ending May 24th.

Mail matter from France is to be overhauled in the British post-offices and stowed in a separate part of mail ships bound to the United States: whether this separation is sufficient guaranty to prevent the introduction of cholera is to be left to the health officers of United States ports, who may require its disinfection if they see proper to do so.

REPORTED CHOLERA IN NEW YORK.—A reported case of "true" Asiatic cholera was heralded by one of the morning papers of Washington on Monday last. It turned out to be a case of "stomach-ache," with cramps, and the patient was convalescent the next day.

YELLOW FEVER.—One death from yellow fever is reported at Pernambuco by the consul at that place, for the week ending June 7th, and three deaths at Santiago de Cuba for the same period.

Thirteen deaths from this disease are reported by the consul at Rio for the two weeks ending May 31st.

Reports from Ship Island, Sapelo, and Cape Charles quarantine stations indicate a healthy condition of affairs at those stations, with no yellow fever cases in hospital.

THE JUNIATA VALLEY MEDICAL ASSOCIATION will hold its annual reunion at Cresson, on the Allegheny Mountains, on Tuesday, July 15, 1884. The Association cordially invites all members of County Societies to participate in its doings.

A FAREWELL BANQUET was given to Drs. S. C. Busey, D. W. Prentiss, W. W. Johnston, and J. S. Billings, at the Arlington Hotel, Washington, on June 28, by the Washington Obstetrical and Gynecological Society, on the occasion of the departure of these gentlemen for Europe to attend the Copenhagen International Medical Congress.

M. **PASTEUR** has received a gold medal, from the Central Society for the Improvement of the Canine Race, for his researches in hydrophobia.

AN EXCURSION TO THE LEPER DISTRICT.—After the session of the International Congress is over, on August 17, it is proposed to organize an excursion to Bergen and Norway, where leprosy is prevalent. The excursion will last about fifteen days, and will be directed by Dr. Armäner Hansen. Those desiring to participate should write to Dr. Haslund, Chairman of the Committee on Dermatology, at Copenhagen, before the middle of July.

SEVENTH RIBERI PRIZE.—The subject for the seventh Riberi Prize, of 20,000 lire, is: "Embryological Researches, particularly as regards the Anatomy, Physiology, and Pathology of Man." Manuscripts must be written in Italian, French, or Latin, and must be presented by December 31, 1886.

OBITUARY RECORD.—ALEXANDER TWEEDIE, M.D., F.R.S., died on May 30th, at the age of ninety. Dr. Tweedie was born in Edinburgh in 1794. In 1809 he commenced his medical studies at the University of Edinburgh, and in 1815 took his degree of M.D. In 1817 he became a member of the Edinburgh College of Surgery, and was then elected one of the two house surgeons to the Edinburgh Royal Infirmary, Robert Liston being the other. In 1820 he moved to London, and in 1822 was admitted a Licentiate of the College of Physicians. He became a Fellow of the College in 1833, and was Lumleian Lecturer in 1858 and 1859. In 1824 he was appointed Physician to the London Fever Hospital, which position he filled for thirty-eight years.

NOTES AND QUERIES.

PEPTONIZED MILK IN SUMMER DIARRHŒA OF INFANTS.

To the Editor of THE MEDICAL NEWS.

SIR: The report of my paper on the "Summer Diarrhœa of Infants," published in the NEWS of to-day, is full and more accurate than I expected; since it was read rapidly and with many omissions through want of time, but there is one error, which, as it relates to the important matter of feeding infants, I wish to correct. The report reads: "Of this peptonized cow's milk, one part to three parts of water should be used for a child of one month," etc.

The dilution here recommended is for milk not peptonized. Peptonized milk does not in my opinion require any further dilution than that employed in the peptonizing process. In the institutions with which I am connected, and in my private practice, I have not recommended any additional dilution even for the youngest infant.

Yours truly,
J. LEWIS SMITH, M.D.

NEW YORK, July 5, 1884.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 1 TO JULY 7, 1884.

PROMOTIONS TO DATE FROM JULY 2, 1884.

GLOVER PERIN, to be Assistant Surgeon-General, with rank of Colonel.

ANDREW K. SMITH, to be Surgeon, with rank of Lieutenant-Colonel.

PASSMORE MIDDLETON, to be Surgeon, with rank of Major.

MIDDLETON, J. V. D., *Major and Surgeon.*—Ordered to relieve Surgeon B. E. Fryer from duty as Post Surgeon, Fort Leavenworth, Kansas, on or before July 1st.—*Par. 5, S. O. 133, Headquarters Department of Missouri*, June 28, 1884.

GIRARD, J. B., *Captain and Assistant Surgeon.*—Ordered to relieve Surgeon W. E. Waters from duty as Post Surgeon Plattsburg Barracks, Plattsburg. N. Y. SURGEON WATERS, upon being relieved, is directed to return to his proper station (Madison Barracks, N. Y.).—*Par. 3, S. O. 131, Headquarters Department of the East*, June 30, 1884,

BENHAM, R. B., *First Lieutenant and Assistant Surgeon.*—From Department of Dakota to Department of Texas.

GORGAS, WM. C., *First Lieutenant and Assistant Surgeon.*—From Department of Texas to Department of Dakota.—*Par. 8, S. O. 150, A. G. O.*, June 28, 1884.

BIRMINGNAM, H. P., *First Lieutenant and Assistant Surgeon.*—From Fort Bayard, New Mexico, to Fort Bliss, Texas.—*Par. 3, S. O. 137, Headquarters Department of Missouri*, July 3, 1884.

WALES, PHILIP G., *First Lieutenant and Assistant Surgeon.*—From Old Fort Colville, Washington Territory, to Fort Cœur d'Alene, Idaho.—*Par. 3, S. O. 89, Headquarters Department of Columbia*, June 23, 1884.

THE MEDICAL NEWS.
A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLV. SATURDAY, JULY 19, 1884. NO. 3.

ORIGINAL LECTURES.

SYMPATHETIC OPHTHALMIA.

An Abstract of a Clinical Lecture Delivered at the Jefferson Medical College Hospital.

BY WILLIAM THOMSON, M.D.,
OPHTHALMIC SURGEON TO THE HOSPITAL.

THE two cases now before you we wish you to study carefully, and trust that the picture presented by that small, anæmic boy, with his downcast face, peculiar, haggard expression, and closed eyelids will impress itself so indelibly upon your minds that it will not readily be effaced. That, Gentlemen, is one of the most typical cases of sympathetic ophthalmia we can bring before you.

The history of the case is, briefly, as follows: About December 15, 1883, the lad, while cutting a cord with a sharp-pointed knife, accidentally punctured the left eye. The wound, as you see, is in the ciliary region, near the cornea, in the inner and lower quadrant, on the nasal side of the eyeball, at least five millimetres in length. Very little hemorrhage followed the injury, neither was there any pain at the time. The day following, vision became hazy and sight began to disappear; traumatic cataract developed; serous iritis followed, occluding the pupil. There can be no doubt that the inner coats of the eye, especially the choroid, by its continuity of tissue, became inflamed and their structures destroyed, or at least so invaded by exudative products—leucocytes, possibly micrococci—as to injure their normal structures. The treatment instituted was bandages and cold applications.

Inasmuch as there was not much pain in the eye—although blind—the boy was permitted to run about, and on January 2d was sent to school. Two days after this, without any premonition of trouble in the right eye—the uninjured one—the lad suddenly found objects enveloped in a haze; this condition grew rapidly worse, and in two weeks only qualitative perception of light remained, *i. e.*, could only tell the difference between day and night. In examining the left eye, you see the cicatrix of the wound, the grayish-green color of the iris—balloon-shaped, the pupillary space filled by a mass of lymph, the diffused pink color of the sclerotic—due to congestion of the small arteries, the photophobia, and some lachrymation.

The same clinical picture is seen in the right eye—possibly a greater deposit of lymph in the anterior chamber, and a darker tint to the sclerotic vessels.

Relative to the treatment in this case, nothing can be done to restore vision; the lad is hopelessly blind. We can only alleviate symptoms. For the irritation of the eyelids, a mild astringent lotion, such as acid. borac., grs. iij, to aq. camph. and aq. destil. āā f℥ss. If we wish to use atropiæ sulph., to relieve the iritic pain, we can combine atropiæ sulph., gr. j, with ung. boroglyceridi, ʒiij. Internally, tonics and good food, to keep up the muscular tonus of the general system. In the earlier inflammatory stage, probably calomel, grs. j to ij, guarded by opium, forced to salivation, might have modified the virulence of the disease. The proper course to have pursued should have been the enucleation of the injured eye, as a prophylaxis.

This man was injured April 4th, by a chip of steel off a chisel—seventeen days ago. The wound is in the ciliary region, on the nasal side of the eyeball, just below the tendinous attachment of the internal rectus muscle. Already do we find a slightly hazy cornea, circumscribed ciliary injection, a wound six millimetres in length, in which the iris is incarcerated, giving the pupil an ovoid shape, notwithstanding the fact of its being under the influence of a mydriatic. An ophthalmoscopic examination revealed a delicate haze of the cornea, lens clear, but vitreous turbid, not allowing the details of the fundus to be defined; but down and in toward the nasal side of the fundus, a few lines beyond a point corresponding to the lower lip of the wound, we obtained a whitish reflex—no doubt the foreign body covered with exudative material. No untoward symptoms have become manifest other than slight twitchings of pain through the eyeball, which are at times reflected to the infraorbital nerve. Vision almost *nil.* No photophobia. The right eye is normal in every respect.

As regards the treatment, what shall be done? When we recall the lamentable condition of the small lad, we know of only one remedy that will protect the quiet eye, and that is, enucleation of the injured one. Before the stage of irritation has developed we can enucleate with safety. If we were to wait till vision became blurred, or serous iritis developed, then surgical interference would not only be too late, but might aggravate the inflammatory condition of the sympathizing eye; or, again, as has often been found, the primarily injured eye might remain the better of the two.

We will not detain you by reviewing the different theories of sympathetic ophthalmia—as to whether the probable route to the sympathizing eye is by the optic nerve, or through the ciliary nerves, or by way of the perineural lymph-spaces, or through the medium of the uveal tract. But when you have a patient wounded in the ciliary region always give a guarded prognosis; look upon it as an injury fraught with the greatest danger, and which may culminate in the most serious consequences.

The patient has refused to submit to the operation. We shall order him a solution of atropia, grs. iv to ℥j. Internally, we shall give him hydrarg. chlor. mit., grs. ij, pulv. opii, gr. ¼, twice daily. This treatment to be watched. If the eye becomes painful, leeches will alleviate.

P. S.—The patient was brought to the hospital May 21, 1884, by his attending physician, Dr. Fretz, suffering with the following conditions: Eye much inflamed, cornea hazy, no reflex from fundus obtainable, marked circumscribed ciliary injection, dread of light, excessive lachrymation, tenderness on pressure, pain extending down track of infraorbital nerve—this pain has been very severe at night for the last ten days. The patient consented to have the eye enucleated, which was then done.

The eye was opened. The vitreous turbid; a large, semi-organized blood-clot and exudation in the region of the wound. Imbedded in the exudation was found a flat, rectangular piece of steel, 4 x 6 millimetres. The lens transparent; ciliary bodies and peripheral part of iris much inflamed. The optic nerve and macular region to the aided eye did not seem to be swollen. No sympathetic symptoms in right eye.

ORIGINAL ARTICLES.

STUDY OF THE PATHOLOGICAL CHANGES OCCURRING IN TRIFACIAL NEURALGIA,

WITH THE REPORT OF A CASE IN WHICH THREE INCHES OF THE INFERIOR DENTAL NERVE WERE EXCISED.[1]

BY J. EWING MEARS, M.D.,
PROFESSOR OF ANATOMY AND SURGERY IN THE PENNA. COLLEGE OF DENTAL SURGERY; SURGEON TO ST. MARY'S HOSPITAL, PHILADELPHIA, ETC.

AN examination, somewhat extended, of the literature relating to neuralgia of the fifth nerve has shown that in those cases in which resort has been had to the employment of surgical procedures as methods of treatment, no investigations, or, if any, very incomplete investigations have been made to determine the character of the pathological changes which have been present and upon which the morbid conditions have been founded. Thus, of twenty-four cases reported by Mr. Thomas F. Chavasse to the Royal Medical and Surgical Society of London, in which surgical operations had been performed, but two reports, and these very incomplete, were made of the condition of the nerve involved. The absence of these investigations has interfered, it seems to me, materially with any radical progress in the application of remedial measures and has resulted largely in the use of those which are empirical in character. Believing that we can arrive only at rational methods of treatment by increasing our knowledge of the pathological conditions which exist in cases of chronic prosopalgia, I have ventured to submit the report of a case in which free neurectomy was performed, and in which a careful study was made of the diseased structure removed.

The patient, a German woman, aged 50 years, consulted me eight years and a half preceding the operation, which was performed on the 27th of August, 1883, for intense neuralgic pain involving the left inferior dental nerve. The pain began in the second bicuspid tooth, which was in a state of caries, and passing backward gradually implicated the remaining teeth, which were sound. The carious tooth was removed without affording relief, and subsequently the remaining teeth with the same result. The treatment instituted at this time afforded but slight relief, and the patient passed from under my care. After an interval of four years she again consulted me, having in the meantime received treatment from a number of physicians, with but transient relief. I found on examination that the area of pain had increased, and that the periods of cessation were diminishing. The prolonged use of various anti-neuralgic remedies, combined with the application of the constant current of electricity availed but little, and I suggested neurectomy, which she declined, and again sought other advice.

Four years and a half later she returned and stated that she was prepared to submit to any operation I deemed necessary to perform, as her life was a burden. She had fallen into the hands of empirics, and had, as she expressed it, passed through "fire and water" without relief of the pain, which was now constant and excruciating.

The disease had now assumed the epileptiform variety, the paroxysms occurring at intervals of a quarter and a half of a minute, and were excited by a breath of air, the touch of the fingers, or the placing of food or water within the mouth in contact with the side affected.

On the 27th of August, 1883, I performed neurectomy, removing three inches of the inferior dental nerve including all of it which was contained within the canal and a portion extending beyond the mental foramen shown in Fig. 1. The external surface of the bone was exposed by an incision carried from the middle of the posterior border of the ramus along the base to a point beyond the position of the mental foramen and reflecting the flap.

A one-half inch trephine was applied over the position of the inferior dental foramen and a disk of bone, including the outer table, was removed. The mental nerve was dissected to the distance of a half inch beyond its point of exit from the foramen and divided. A dental burr attached to the surgical engine was now used to enlarge the mental foramen and release the nerve. Traction was made upon the nerve at the point where it was exposed by the trephine and it was withdrawn entire from the canal. Before dividing it posteriorily it was drawn down so that the division might be made as high up as possible and the stump was pushed back until it was entirely beyond the foramen. The artery, which was torn in the manipulations employed to remove the nerve, was divided and the end twisted—no hemorrhage followed. An examination of the nerve in its position in the canal showed that it was swollen and reddened, and the artery appeared to be so compressed and flattened that it occupied very much less of its relative space in the canal. The facial artery was caught by an acupressure needle and held until the completion of the operation, when a ligature was applied. The wound healed in six days. The patient was free from pain, and, with the exception of one or two spasms of pain occurring apparently in the stump of the nerve, she has remained so until this date, nearly nine months.

The opportunity being presented of studying the conditions which follow the removal of so large a section of the nerve, I made, ten weeks after the operation, two careful examinations of the parts supplied by it, the last examination being made in conjunction with Dr. J. T. Eskridge, of Philadelphia. On the day of this examination, November 9, 1883, the weather was damp, and the surrounding atmosphere 65° F. Over the external surface of the lower lip, comprising the area of terminal distribution of the mental branch of the left inferior dental nerve, a sharply defined zone of complete anæsthesia and analgesia was found. This anæsthetic area was irregular in shape, and measured transversely at margin of lip $1\frac{3}{16}$ inches; at the lower border of the zone (a slightly curved line) $\frac{5}{16}$ of an inch; vertically $1\frac{1}{2}$ inches; transversely at the middle $1\frac{1}{16}$ inches; border over symphysis (slightly convex line), $1\frac{5}{16}$ inches; at external margin towards ramus (slightly concave line), $1\frac{5}{16}$ inches; over this zone the patient was unable to recognize contact of cold or hot substances. Over a small portion of the lip, and outer surface of the alveolar border, corresponding to the anæsthetic area just described, anæsthesia and analgesia were complete. The inner surface of the alveolar border was everywhere sensitive. Over a limited area, extending forwards from the position of the inferior dental foramen to the posterior border of the zone of complete anæsthesia, the ability to recognize tactile sensations, painful impressions, and the contact of heat and cold was diminished. Considerable swelling was noticeable on the left side of the face, with slight drooping of the eyelids, and partial obliteration of the vertical fold extending downwards from the angle of the mouth. The surface of the skin was roughened, and presented the appearance of a somewhat diffuse capillary congestion. Formication was present, and was especially marked on passing from the cold air outside to the warm rooms of the house.

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[1] Read before the American Surgical Association, May 2, 1884.

The following surface temperature observations were made, beginning at 11.29 A. M., and continuing until 12.32 P. M.:

Axillary temperature: right, 98°; left, 98°.

Over infraorbital foramen: right, 98.1°; left, 98.1°.

Over inferior dental foramen: right, 97.7°; left, 97.9°—$\frac{2}{10}$° difference.

Near upper border of lower lip: right, 97.4°; left, 97.7°—$\frac{3}{10}$° difference.

Incisive fossa about the middle of anæsthetic zone: right, 96.4°; left, 97.2°—$\frac{8}{10}$° difference.

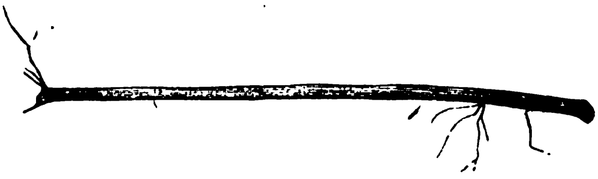
From the above examination, information was gained as to the area of surface supplied by the terminal branches of the inferior dental nerve, and which, in diseased conditions of the nerve, become the seat of the painful impressions. The existence of slight paralysis of the orbicular and cheek muscles would seem to indicate that by reason of the free anastomoses (correctly speaking unions, or connections) between the terminal branches of the fifth and facial nerves, the excision of a branch of the former had apparently affected the function of the terminal branches of the latter. The incision made did not divide any of the larger branches of the facial nerve, and certainly none of those distributed to the orbicular muscle of the eye. In the same manner as above, may we not explain the painful spasm which occurs in prosopalgia of the epileptiform variety, the facial muscles acting under the motor impulses created by the transmission of the morbid impressions from the diseased sensitive, to the normal motor nerve?

The slight elevation in temperature noted at different points in the anæsthetic zone is in accord with the physiological results obtained after nerve-sections, although Dr. S. Weir Mitchell observes, in his work on *Injuries of Nerves* (edition of 1872), that he is not aware of any clinical observation which records the early rise in temperature after total section of the main nerve of a member. The elevation in temperature is explained as the result of dilatation of the bloodvessels caused by the vaso-motor paralysis.

The portion of nerve exsected was given for careful examination to Dr. G. de Schweinitz, of Philadelphia, who submitted the following report:

"Macroscopically, the portion of nerve presented for examination did not exhibit any changes except, perhaps, a slight thickening beyond what is usual in the normal inferior dental nerve. The thickest portion of the excised nerve corresponded in size to a No. 7 bougie (French scale), and the thinnest to that of a No. 6. The nerve was hardened for section by placing it in Müller's fluid, and then in ordinary alcohol for two days. Transverse and horizontal sections were made and stained with Klein's carmine and hematoxylin solutions, dehydrated in alcohol, cleared up in oil of cloves, and permanently mounted in dammar. For the purposes of comparison, similar sections of a normal external branch of the radial nerve were made after it had been subjected to a precisely similar hardening process.

Fig. 1.

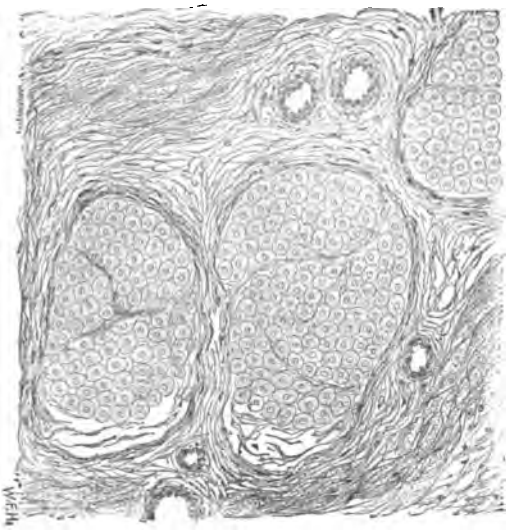


The portion of the nerve removed.

"In Fig. 2, within the perineurium, are seen the cross-cuts of the nerve-fibres, separated from one another by the delicate tissue known as endoneurium, which is here and there crossed by fine trabeculæ of connective tissue subdividing the fasciculus. Each nerve-fibre is composed of a dark, central spot representing the axis-cylinder surrounded by a white circle—the medullary sheath. The whole is enclosed within a double contoured external ring, the sheath of Schwann or neurilemma. The supplying bloodvessels are seen in cross-section in the connective-tissue investments of the nerve.

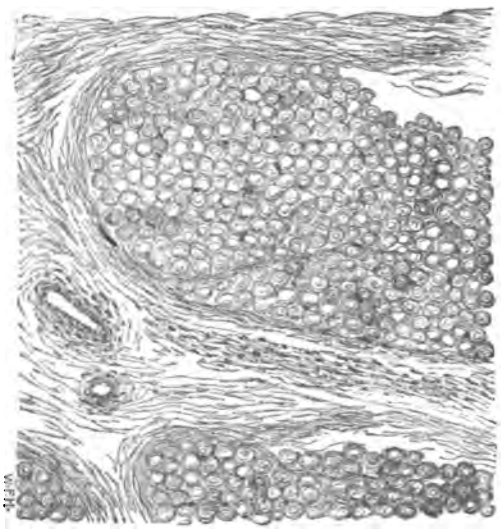
"Figs. 3 and 4 represent the microscopic characters of the diseased nerve. Some slight increase and thickening of the connective-tissue sheaths investing the fasciculi as well as of the trabeculæ dividing them is noted, together with a change in their regular arrangement. The walls of the bloodvessels, both in cross-section and in Fig. 3, when viewed in vertical section, are surrounded by a lymphoid infiltrate. Here and there, scattered through the connective tissue, are small collections of minute, yellowish-white, glistening dots representing probably foci of fatty degeneration. The chief changes are in the nerve-tubes themselves. The axis-cylinders cannot be satisfactorily demonstrated. When present they are not stained with carmine, and are often apparently entirely wanting. The medullary sheath appears swollen and the cross-cuts of the individual nerve-fibres are not clearly defined and sharply cut, but consist of a confused mass of concentric rings. The sheath of Schwann often has a crumpled appearance. The transverse sections of the nerve-fibres might in many places be not incorrectly compared to the interior aspect of a minute oyster-shell both in shape and by virtue of this peculiar concentric arrangement. Longitudinal sections reveal increase of the nuclei of the sheath of Schwann. The changes thus described show a parenchymatous neuritis, as is indicated by the degeneration in the nerve-fibres as well as changes in the connective tissue of an inflammatory type, as is shown by its thickening and the alterations in and about the bloodvessels. The neuritis is probably also of an ascending nature, as the changes in the diseased nerve are more marked about the mental foramen and grow less noticeable as the angle of the jaw is approached."

FIG. 2.



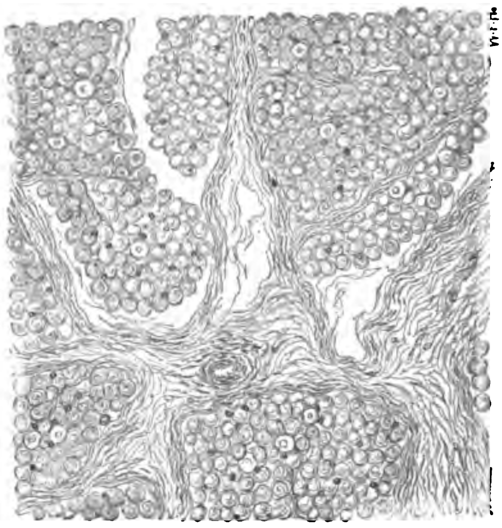
Cross-section of the normal external branch of the radial nerve. Cross-sections of the individual nerve-fibres are seen, showing axis-cylinaer, medullary sheath, and neurilemma. The fasciculi are subdivided by trabeculæ of connective tissue. Bloodvessels are seen in cross-section.

FIG. 3.



Section of the diseased nerve taken from near the mental foramen. The irregular and confused outlines of the nerve-tube are shown, together with the concentric arrangement of the arches. The connective tissue is moderately thickened. Three bloodvessels are seen, two in cross-section, and one longitudinally, surrounded by small-celled lymphoid infiltrate showing thickened walls.

FIG. 4.



Section of the diseased nerve taken from near angle of the jaw. Changes the same as those above, only less marked. Here and there nerve-tubes of normal appearance are noted. The same concentric arrangement, and also alteration in bloodvessels, is seen.

It has been observed that the anatomical distribution or rather arrangement of the large nerve-trunks of the body, is such that they are protected by position from injury. Thus, those of the upper and lower extremities are placed, where they enter the parts and are superficial, on the inner aspects—in the forearm and leg they are covered by muscular masses, and in passing to their terminal distributions they are surrounded by fascial envelopes which more or less protect them. Notwithstanding the protection afforded, there are certain nerves in which chronic forms of neuralgia appear which are very often traumatic in origin. Thus, the sciatic nerve may be readily injured at the point of emergence from the pelvic cavity—the sacro-ischiatic notch—by falls and kicks, giving rise to inflammatory conditions and resulting degenerative changes, and in this manner we may explain the frequent occurrence of its diseased states. The median nerve is exposed to injury in deep wounds of palm of the hands by wounds from knives, glass, splinters, etc.

In *The American Journal of the Medical Sciences* for July, 1874, Dr. S. Weir Mitchell reported a case of traumatic neuralgia of the median nerve due to a wound of one of the palmar branches by a splinter. Twenty years after, a bruise of the palm developed intense pain in the course of the terminal branches of the nerve and the splinter was removed. The pain continuing, three-quarters of an inch of the nerve was excised, with permanent relief to pain. An examination of the exsected nerve showed marked degenerative changes which had occurred primarily in the nerve-fibres themselves.

Of all of the cranial nerves, the fifth is, by reason of its anatomical distribution and relations, most exposed to injury and to morbid changes. Appearing upon the external surface by large terminal branches, at three exposed points it may suffer injury by blows and falls. Much stress has been, from time to time, laid upon the fact of the passage of the branches of the nerve through bony canals and notches and the contractions of these channels by inflammatory changes have been assigned as the not infrequent causes of painful conditions. A specimen of hyperostosis of the lower jaw in my possession would seem to show that in changes of this character marked contraction does not occur; the hypertrophy in this case was due to syphilitic periostitis, the patient dying of syphilitic gumma of the brain; during life neuralgic symptoms were absent. In cases of phosphorus necrosis of the lower jaw, in which the disease originating in specific inflammation of the periosteum results in the deposit of layers of ossific matter, the foramina of entrance and exit of the inferior dental nerve are not markedly encroached upon, and neuralgic conditions are not a usual accompaniment of the disease according to my observation, which has recently been somewhat extensive. That the presence of the nerve-branches, with bloodvessels in these bony canals, contribute to morbid conditions which have been developed we will discuss further on. It is, I think, in accordance with the conservatism which attends the progress of structural changes to afford protection to the bloodvessels and nerves, in order that nutrition may be maintained.

The direct and extended connections of the nerve through two of its divisions with the teeth, offers, it seems to me, a satisfactory explanation as to the frequent occurrence of neuralgic conditions. Not only may the morbid conditions take origin in the ultimate nerve-twigs which take part in the formation of the pulp, but also in the filaments distributed to the alveoli and their vascular and sensitive lining membrane. Inflammation of this lining membrane may occur without accompanying caries, and in this manner we may explain the presence of pain in teeth which are sound, and also the temporary relief which follows their extraction.

Inflammation beginning in the twigs of the pulp and permitted to continue, may pass by continuity of structure to the trunk of supply, and gradually involve it. At first, the connective-tissue structures of the nerve become the seat of the inflammatory changes, resulting in hyperplasia and increase in size. The continuance of the inflammatory action results in interference with nutrition, and degenerative lesions are developed. To what extent the interference with nutrition is due to the cutting off of the blood-supply from the accompanying artery by pressure of the abnormally enlarged nerve is a question of interest. And whether the defects of nutrition are entirely intrinsic, resulting from the hyperplastic changes in the nerve itself, is a subject for further study. In the case under examination it will be recalled that the artery, as it lay in the canal with the somewhat enlarged nerve, appeared compressed and its walls collapsed.

The discussion as to the origin of chronic neuralgic affections of the fifth nerve in peripheral or central lesions has taken place from time to time. That grave central lesions in the nerve, or intracranial conditions, may cause intense painful affections cannot be questioned. Dr. Roberts Bartholow, in his *Practice of Medicine*, states that he has observed the most intractable neuralgia, involving the intraorbital branch of the second division of the fifth nerve, which was found, post mortem, to be due to an intracranial aneurism exerting pressure upon the nerve before its exit. The evidence deduced from the great majority of reported cases, however, confirms the belief that the lesions are, in their origin, peripheral in character.

Another question of interest, which has been discussed in connection with neuralgic affections involving the intraorbital branch, has been the involvement of the ganglion of Meckel and the necessity for its removal in operations. This question, it seems to me, should not demand very serious discussion, and the statements which have been made in reported cases have lacked elements of evidence which should give reason for their acceptance. The cephalic ganglia of the sympathetic system, four in number, are all in relation with the fifth nerve through the sensory roots which this nerve contributes to them. It is possible that the roots derived from the nerve-trunk might become implicated by continuity of structure, but we have no evidence that this involvement of the roots leads of necessity to a morbid state of the ganglion, which differs in structure from the nerve-fibres. Further involvement of the ganglion would induce morbid impressions, which would manifest themselves in the branches of distribution, and we should expect to find symptoms in the cavities of the nose and mouth, which receive these branches largely. Our knowledge of the symptoms expressed in the ganglia of the sympathetic system in morbid states is too meagre to permit the acceptance of the opinion that the painful impressions occurring in neuralgia of the superior maxillary division of the nerve take their origin in the ganglion, and that its removal with the nerve is demanded, in order to secure permanent relief. We do know that the sympathetic system is endowed both with sensibility and the power of exciting motion, but these properties are less active than in the cerebro-spinal system, and are exercised in a different manner.

The propositions which I would submit as the result of the study of the case reported are as follows:

1. That in the large majority of cases of chronic prosopalgia, the infraorbital and inferior dental branches of the fifth nerve are implicated, and that these branches are involved to the exclusion of other branches of the second and third divisions of the nerve.

2. That as the filaments of these branches terminate in the teeth and the alveoli which contain them, we must look for the initial lesions in morbid conditions of these organs.

3. That these initial lesions are essentially inflammatory in character, assuming the form of an ascending neuritis, and that non-interference with the progress of the action results in secondary degeneration, the ultimate expression of which is that of fatty degeneration.

4. That the diffused character of the pain and the painful spasms observed in the epileptiform variety are due to the extensive connections of these branches with those of the facial nerve.

5. That if involvement of the sympathetic ganglia occurs it is secondary in character, and that we have no positive evidence that independent removal of these structures will afford relief in the treatment, or that their removal with the nerve is essential to permanent relief.

6. That the treatment should be divided into that of two stages, primary and secondary. It should consist in the primary stage of the removal of the causes by proper treatment, and the employment of antiphlogistic remedies. Destruction of the nerve-filaments and filling of the cavities, or extraction of the teeth and treatment of the lining membrane of the alveoli should constitute the treatment in the early periods of the primary stage.

Ligature of the common carotid artery as advised by Weinlechner and Patruban, and as has been practised in a number of reported cases, should be performed in the early period of the primary stage before the deposit of plastic matter, in order to be of avail. As the vascular supply to the nerve is derived from the branches of the external carotid, it would appear as sufficient to apply the ligature to this vessel just below the origin of the facial. Owing to the free anastomosis between the terminal branches of the arteries, it would require ligature of both arteries, in order to be completely effective. The ligature of the artery supplying the nerves involved is in accord with a rational method of treatment of the inflammatory condition, and the absence of permanent relief in cases in which it has been employed has no doubt been due to the fact that the operation was not performed at a sufficiently early period.

Stretching of the nerve is an operation which should be performed in the later portion of the primary stage, and beginning of the secondary stage, after the deposit of exudates; the purpose being not only to destroy the conducting property of the nerve, but to break up the deposit, in order that its removal may be more readily accomplished by absorption. The failure of this method of treatment in cases reported has been due probably to the fact that it has been performed too late, when the ultimate degenerative changes have taken place.

Neurotomy may be regarded as of little, or no value in obtaining anything but the most transient relief, the speedy reunion of the divided nerve soon restoring the morbid conditions. The timely depletion which may follow division in the very early stage may be of service, but nothing can be expected, so far as permanent relief is concerned, in the secondary stage.

I have recently had under my care a case in which the effects produced by nerve-stretching were well illustrated, and which may occur in prosopalgia when treated by this plan. The patient a German, aged thirty-eight, fell in going down stairs, and received a wound of the upper part of the palm of the hand by the breaking of a lamp which he held. Beyond washing the wound nothing was done in the way of treatment. In a few days it healed, leaving a somewhat painful cicatrix. Gradually the pain extended to the thumb and fingers, and was distinctly felt in the terminal distribution of the median nerve, both sides, thumb, index, and middle finger, and radial side of ring-finger. The pain became intense, and the fingers assumed the clawed position, and any effort to extend them gave rise to excruciating pain. Coming to me for relief I excised the cicatrix, dissected out the nerve to the extent of an inch, removed a small piece of glass which lay beneath it and stretched it forcibly; at once this removed a distinct enlargement which existed upon the nerve at the point of wound, and also elongated it. Pain was promptly removed and an anæsthetic condition resulted in the area of distribution of the nerve-branches. At the expiration of four months normal sensation began to return, and is now, two months later, perfect. The result in this case indicates that the stretching had destroyed the power of the nerve to conduct painful impressions, and as well, probably, caused a gradual absorption of the infiltrate. This being in time accomplished the conducting power of the nerve was restored and the morbid condition being removed, the impressions were normal in character.

Neurectomy is the operation which should be performed in the secondary stage, and when the epileptiform variety of the disease is present a careful examination should be made, in order to determine, if possible, the extent of involvement, and excision should be carried beyond that point. It should be a rule to leave none of the nerve in the bony canals, and also in intractable cases to carry the operation to the point of exit from the cavity of the cranium. With regard to the second and third divisions, the foramina can be reached in one operation by the method practised by the late Professor Joseph Pancoast. This operation consists in the elevation of the masseter muscle by a square-shaped flap over the ramus of the jaw, resection of the coronoid process, ligature of the internal maxillary artery, separation of the points of origin of the external pterygoid muscle, and exposure of the oval foramen and the spheno-maxillary fissure. At the former the inferior dental can be divided, and after being exposed by a slight incision can be divided and released at the mental foramen by the surgical burr, and withdrawn entire from the canal. The infraorbital can be hooked down as it crosses the spheno-maxillary fissure, divided, and released at its emergence upon the face in the same manner as the inferior dental at the mental foramen.

If in any case I believed, or had evidence by the symptoms, or by the appearance presented in the branches of the inferior maxillary division, that the morbid condition had invaded the Gasserian ganglion, I would not hesitate to enlarge anteriorly the oval foramen by the application of the burr attached to the surgical engine, and by traction draw down the ganglion from its position in the fossa upon the anterior surface of the apex of the petrous portion of the temporal bone, and proceed in a cautious manner to break it up or remove by section with the small blunt-pointed scissors. The primary ligation of the internal maxillary artery precludes hemorrhage from either the meningea media or parva, the first of which is in intimate relation as it passes through to the foramen spinosum, and the second as it enters the cranial cavity through the oval foramen. The position of the internal carotid artery as it passes from its canal in the petrous portion of the temporal bone into the cavernous groove should not be forgotten, and great care should be taken to avoid injury to it by going beyond and behind the margin of the oval foramen.

Neurectomy, to be successful, should be complete. Incomplete and partial operations not only result in failure, but destroy the confidence of the patient as to the benefit to be derived from operative procedures. I have ventured to bring this subject before the notice of the Fellows of this Association, and I have submitted the report of the results of the examinations in the case under my care, with the hope of stimulating further researches into the pathological conditions which exist in this truly distressing affection. It is only in this way, as I have stated before, that it can be removed from the domain of empiricism, in which it rests without hope, and be placed upon the sure foundation of a rational system of treatment.

CASE OF DERMATITIS HERPETIFORMIS (MULTIFORMIS), AGGRAVATED BY PREGNANCY AND IRREGULAR MENSTRUATION.

By LOUIS A. DUHRING, M.D.,
PROFESSOR OF SKIN DISEASES IN THE UNIVERSITY OF PENNSYLVANIA.

Mrs. M., aged twenty-eight, a resident of St. Paul, Minn., consulted me February 3, 1883, for a chronic inflammatory disease of the skin, involving the entire surface. She was of spare frame, with brown hair, and of a nervous temperament. She gave the following clear and interesting history of her case: Her ill-health began three and a half years ago, up to which date she had been in good general health; had menstruated regularly and normally, and had weighed one hundred and thirty-five pounds. She had borne a healthy child three years before, without difficulty. The first manifestations were upon the tongue and in the throat, in the form of whitish spots, similar to so-called "canker-sores," which continued for six months, desquamating from time to time, the mouth being so sore and sensitive as to render eating painful. She was in the third month of her second pregnancy when the first sign of cutaneous disease appeared on the flexor surfaces of the right arm and thigh, and on the abdomen, in the form of small, annular clusters of *vesicles*, occupying the space of a five-cent silver piece. The lesions were itchy from the beginning. They spread slowly, new "little water-blisters" coming out from day to day. This process progressed for six weeks, when the body was well covered with eruption, and she was compelled to remain in bed. Three weeks after the attack began *blebs* appeared, accompanied by comparatively slight itching. They ruptured easily and left excoriated surfaces. As gestation proceeded, the disease became steadily worse, being at its height during the fourth and fifth months, at which date *vesicles* and *blebs* of all sizes were very numerous, and the itching intense, accompanied by extensive excoriations and scratch-marks, with more or less oozing and crusting. No treatment used seemed to have any effect in relieving the symptoms.

At this date very curious lesions were noticed on the wrists and on the palms and soles. They were elongate (about an inch in length), rounded (about an eighth of an inch in thickness), firm, whitish, striated elevations, situated transversely on the wrists, the same condition existing on the palms and soles. When opened a non-offensive, cheesy mass "popped out," to use the words of the patient. The contents were not expressed, but were forced out naturally. The lesions were opened every day for several weeks, when they ceased appearing.

At the sixth month of pregnancy the skin cleared off, the lesions disappearing, except a large bedsore, which did not heal until a month after delivery. The skin remained comparatively clear about one week, when small pin-head-sized *vesicles*, soon followed by large, hazelnut-sized *blebs*, again appeared. This crop also manifested itself on the legs and feet, regions hitherto exempt. The blebs were all large, very abundant, crowded one another, and were very itchy. Some of the lesions became pustular. Three or four weeks before delivery the whole integument became œdematous, swelled, or "puffed up," as she expressed it. This condition gradually subsided a week or ten days after the birth of the child, which was born healthy at full term, but lived only four days.

After delivery, and for three weeks following, the vesicles and blebs became fewer, the skin becoming again entirely clear of eruption, and she regarded herself as cured. She remained free, however, only a few days, when small *pustules*, pin-point in size, appeared in abundance; these disappeared, and were followed by a crop of mixed lesions—of *pustules* and *blebs.* This condition continued, better and worse, during the winter, the disease towards summer locating itself chiefly about the axillæ and groins, characterized now by an offensive, excoriated, at times weeping, crusted surface, with itching. Through the summer the skin of the palms and soles thickened, beneath which pus formed, undermining it. This continued for three or four months.

In August, 1881, she indulged in a bath, just before the menstrual epoch, after which the face became blotchy, bluish, and swollen, giving her "a dissipated look." Vapor baths taken repeatedly for one month completely exhausted her. September 1st the menses failed to appear, and October 1st there was a slight discharge, at which date she again broke out with variously sized *vesicles* and *blebs*, the latter, for the most part, as large as a hazelnut, many of them having puriform contents. There was now much excoriation and crusting, the bed-linen everywhere adhering to the raw skin. Numerous small, pin-point-sized *vesicles*, closely crowding one another, again came out over the whole surface. They were so abundant that a pin-point could scarcely be put down between them. She was "literally covered with them," and this condition, in the form of crops, lasted all winter.

The skin disease later again changed its character, large *blebs* and *pustules* appearing, especially upon the face, which was much swollen.

The menstrual flow remained absent five months (from October, 1881, to February, 1882). Arsenic in large doses, and later electricity, were used, and it was thought that she was benefited by the latter. Improvement continued slowly but steadily up to July, 1882, when suddenly, and without apparent cause, violent inflammation of the hands and feet, with large *pustules* on the palms and soles and on the face, manifested itself. These continued to appear and to disappear, in crops, through the summer and autumn, up to the present date, the lesions being, as a rule, shot-sized, whitish *pustules*, and *vesicles*, closely crowded together over almost the entire cutaneous surface. Her general condition has been variable. On many occasions she has felt ill, weak, very nervous, depressed, with chilly or heated sensations or rigors. On one occasion the tongue swelled and became coated with a puriform exudation, with profuse salivation. Menstruation when present is usually normal. Her weight now is about ninety-five pounds, forty pounds below her former average. The appetite has always remained good. She has been under the care of a skilful specialist in skin diseases for six months, but has failed to receive any benefit.

The present condition (February 3, 1883) is as follows: The whole general surface is the seat of a subacute and chronic inflammatory *erythematous* (somewhat urticarial), *papular*, *papulo-vesicular*, *vesicular*, and *pustular* eruption, the lesions being very markedly multiform. They are pin-point, pin-head, and pea-sized; are thickly studded; are firm, and have a shotty feel, as in the early stage of variola. The skin is everywhere much thickened, and is even tough and leathery, and is markedly pigmented, being of a mottled, reddish, dirty-yellowish, brownish hue. The eruption is *intensely itchy.* The face and scalp are least affected, but, as stated, the rest of the general surface, including the palms and soles, is well covered with primary and secondary lesions.

The patient was ordered for local use an ointment of precipitated sulphur, two drachms to the ounce, to be applied to the right half of the body; to the left half, an alcoholic solution of coal-tar, diluted one to four or eight parts of water. Internally, a mixture containing sulphate of magnesium, three ounces; bitartrate of potassium, six drachms; precipitated sulphur, one drachm; glycerine, four fluiddrachms; peppermint water, four fluidounces. Dose, a half fluidounce with a gobletful of water before breakfast. Also, a preparation of iron, bark, and arsenic (one minim dose), to be taken thrice daily. At night a mixture of chloral and bromide of potassium. Both local remedies acted happily, and for five days no preference for one or the other was expressed by the patient. A few days later more improvement was observed upon the side where the tarry solution had been used, and this was then applied, full strength, to the whole surface. Both remedies also had immediate and positive effect in relieving the distressing itching. The skin began to improve, and the eruption to decrease within several days after the treatment was instituted, and at the end of a fortnight very decided benefit was noticeable in the condition of both the general health and the skin. She was well enough a month later to return home, since which time I have heard nothing from her.

The history of the case, extending over three years, shows well the protean character and the multiformity of the disease. It shows the simultaneous occurrence at several periods in the course of the process of erythematous patches, maculo-papules, papular infiltrations, vesico-papules, vesicles, blebs and pustules. At other periods vesicles and blebs prevailed; sometimes vesicles and pustules; and occasionally vesicles, blebs and pustules. The lesions were always accompanied by severe itching and more or less burning. Constitutional symptoms at times were marked, consisting of rigors, sensations of alternate heat and cold, and febrile and nervous symptoms. The latter were especially prominent.

The disease of the skin was unquestionably due partly to the depraved condition of general health preceding pregnancy, but more particularly to this latter state itself. It will be remembered that the cutaneous manifestations appeared in the third month of gestation. It was without doubt subsequently kept up by the disordered condition of the menstrual function and the accompanying disturbed nervous system.

At present I shall not consider the disease further than to say that the case may be regarded as representing the multiform variety of dermatitis herpetiformis. Noted at one period, it would have illustrated the vesicular or the papular variety; at another time, the bullous variety; again, the erythematous; while more often, however, the condition was one of multiformity of lesion, including at times the abundant development of peculiar pustules. The latter phase is that which was first described by Hebra as "impetigo herpetiformis." The vesicular variety has figured conspicuously of late years under the head of "herpes gestationis." In a paper recently read before the American Medical Association, I have described dermatitis herpetiformis at length, giving its characteristic features together with its more prominent varieties or phases.[1] I think both the impetigo herpetiformis of Hebra, and the herpes gestationis of authors, should be placed under dermatitis herpetiformis, both being mere varieties of one pathological process.

The case just considered shows the disease in a severe form, characterized by marked constitutional symptoms; profuse eruption, multiform in character, and appearing in crops; extensive secondary changes in the skin; and itching and burning of the most distressing kind. The patient suffered greatly, the disease for a long period being most rebellious to treatment. Concerning the diagnosis, I may add that as the eruption was noted as one or another set of lesions was out, the disease might easily have been confounded with eczema, herpes or pemphigus; but, keeping the history in mind and observing the course of the process for some time, the individuality of the disease always asserted itself. It is a distinct and clearly defined disease, which, when once recognized, cannot be confounded with any of the well-known skin diseases.

HOSPITAL NOTES.

MEMORIAL HOSPITAL, ORANGE, N. J.

Service of William Pierson, M.D.

A TRIAL OF RECTAL ANÆSTHESIA.

(Reported by Dr. J. H. Bradshaw.)

Michael F., aged 22, single, hatter. The patient, some weeks previous to the time at which the trial of this new method of producing anæsthesia was made, had suffered from a contused and lacerated wound of left middle finger. There had been no injury to the bones, and the wound implicated only the last phalanx. This injury had been treated at the hospital, it had well healed, and the patient had been discharged. He, however, returned to the hospital in a few days with the following story: Having seen the nurses irrigate his wound with a disinfectant solution of carbolic acid, (1–40), he had, in order to cleanse some dirt from the finely cicatrizing surface, bought some pure carbolic acid and had *held* his finger in this undiluted acid. The result was a moist gangrene extending almost to the metacarpus.

Amputation of the finger being necessary, it was decided to attempt the rectal method of producing anæsthesia, advocated a month or two since by Dr. Molière in the *Lyon Medical*.

An apparatus was extemporaneously prepared, consisting of a bottle, a rubber stopper, and two glass tubes passing through the latter. To one tube were attached eighteen inches of rubber tubing, on the extremity of which was placed the nozzle of a Davidson syringe to be introduced into the rectum. To the projecting end of the second tube was fitted a cork, which was to be removed whenever additional ether was to be put in the bottle. It was subsequently found necessary to replace the syringe nozzle by a No. 18 hard but flexible catheter whose tip had been cut away transversely.

Patient tasted the ether, and it was perceptible in his breath within seven minutes after the introduction of the tube. Anæsthesia was complete in eighteen minutes. The amount of ether used was seven ounces. The operation itself lasted but eight minutes, after which the tube was removed and the patient speedily recovered.

Soon after beginning to give the ether the face was somewhat suffused. While under its full influence the pupils were dilated. Breathing was natural and easy, and without stertor. There was, of course, no sense of strangulation, and during the administration there were no unpleasant symptoms other than a slight fulness of the abdomen, and a somewhat warm feeling in the intestines. Patient had eaten a hearty breakfast four hours before given the ether, and during and after the operation there was no nausea or vomiting. There was no stage of excitement preceding the stage of insensibility; however, the patient was very talkative when coming to himself.

During the operation the patient answered questions in an amazingly rational manner, but when he recovered from the effects of the anæsthetic he said he had felt no pain, had suffered no disagreeable feelings, but it had seemed to him "as if he had just awakened from a pleasant dream."

The operation took place May 6th, at noon, Dr. Pierson operating, and Drs. Chandler, Wickes, Stickler, and the writer, being present. The finger was removed at the metacarpo-phalangeal joint. Two hours after recovering from the ether the patient took ℥vj milk and one egg; respiration 28; pulse 92; temp. 98½°. Three hours after operation the patient had a large, natural movement, and passed ℥iij urine. One hour later he began to get strangely drowsy and violent colicky pains were referred to the abdomen. Four hours and a half after giving the ether the patient began to vomit and threw up about ℥x of the contents of stomach. One hour later had a large bloody stool and also vomited blood. Pain severe. Resp. 24; pulse 80; temp. 99½°.

Six hours after the operation pain was "unbearable." Patient vomited everything taken into his stomach. About every hour from this time he either vomited or passed blood from the bowels. Large quantities of pure blood were thus evacuated. Patient grew very prostrate.

Twenty-four hours after the operation the following observations were made: resp. 28; pulse 126; temp. 104°. Four hours later: resp. 23; pulse 126; temp. 104¼°. One hour after this the patient's condition was indeed alarming: temp. 104¼°; pulse 160, and almost imperceptible; resp. 32; prostration excessive. Evacuations of blood continued; patient's condition remained alarmingly low during the second night, the pulse being very feeble and irregular, and the temperature remaining high. Symptoms of gastro-enteritis continued. Urine drawn off by catheter. Forty-eight hours after the administration of the ether the patient's condition was somewhat less alarming. But the temperature remained about 102°.

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[1] Abstracts of this communication may be found in the N. Y. Med. Journ., May 17, 1884, p. 562, and in the Phila. Med. Times, May 17, 1884, p. 603.

It was not until the evening of May 10th, the fourth day after the operation, that the temperature fell to the normal, and the patient began to make a slow recovery.

During this long period of danger everything was done to ameliorate the condition of the patient and to keep him alive. There were administered: enemata of ice water, of starch, of catechu, of quinine, and of opium; cold baths during the pyrexia; injections of Magendie's solution by the skin; tincture of digitalis, quinine, Dover's powder, bismuth, and lime-water by mouth to meet these indications, and milk, beef-tea, and whiskey at short intervals. Physicians or trained nurses were in constant attendance.

May 20. The patient is just strong enough to be about. The healing of the wound has been unsatisfactory.

Remarks.—This far from gratifying endeavor to give Molière's method a fair trial, it is thought wise to put on record, It is true more ether was used than is usually found necessary to employ. But this is accounted for by the fact that for the first five minutes of the administration, owing to defects in the apparatus, no ether passed into the rectum; thus the quantity of ether used and the duration of the process are both over-estimated. It is not thought probable that the injudicious use of carbolic acid by the patient influenced the result of the trial, for the patient was in good physical condition and gave no constitutional evidence of poisoning by carbolic acid.

MEDICAL PROGRESS.

NEPHRECTOMY.—At the meeting of the Glasgow Pathological and Clinical Society, on March 25th, DR. MACEWEN presented a boy from whom the right kidney had been removed about ten weeks previously, on account of suppuration of that organ, which had extended so far as to have virtually destroyed its excretory function. He had previously suffered for many months from symptoms of renal calculus. When admitted under Dr. Macewen's care he was in a semi-delirious and very exhausted condition, with flickering, feeble pulse and abnormal temperature, lividity of face and lips. On examining the small quantity of urine obtained on admission, it was seen to have a copious deposit of pus. On microscopic examination tube-casts containing pus-corpuscles were found, besides numerous crystals of phosphate of lime. There was an increased area of renal dulness on the right side, and a marked fulness in the lumbar region. He was at once operated on by lumbar incision. After removing a large quantity of fetid pus (swarming with bacteria) and shreds of sloughing cellular tissue, two renal calculi were detected in the kidney, one of which occluded the ureter and occupied the greater part of the pelvis, the other in the substance of the organ. Both were removed, but, on further examination, the whole organ was found to be filled with abscesses, leaving little or no excretory surface. It was therefore removed. After recovering from the shock of the operation, he progressed with astonishing rapidity.—*Glasgow Med. Journ.*, June, 1884.

THE PHOSPHORUS TREATMENT OF RICKETS.—DR. M. KASSOWITZ, after repeating the experiments of Wegner on rabbits and chickens, as to the influence of phosphorus on ossification and bone-formation, draws the following conclusions:

1. Large doses of phosphorus cause, in rabbits and chickens, an inflammatory process in the bones, the ossifying cartilages, the periosteum, and the medulla, which bears a striking resemblance, when in a moderate degree, to the rachitic affection; whilst, by an increase of this inflammatory process the epiphyseal cartilages are separated from the diaphyses.

2. Very small doses of phosphorus limit, in a striking manner, the breaking down of the ossifying cartilages and of the newly formed osseous plates, and cause a decrease in the number of primary medullary cavities, as well as a diminution of the later phenomena, which must necessarily lead to a checking of the development of new bloodvessels, and very probably to a contraction of their walls.

The practical results of these experiments have been tested on 560 children ranging from eight months to two years of age, and Kassowitz now believes that phosphorus is a direct, if not a specific, remedy for rickets. All the symptoms of the disease improve under the phosphorus treatment. It may be given in doses of from gr. $\frac{1}{130}$ to $\frac{1}{80}$ or $\frac{1}{32}$ according to the age of the patient. The following is a convenient formula:

℞.—Phosphori, .01 part by weight, solve in olei amygdalarum dulc. ant. ol. oliv. 10.
Pulv. gummi acac.,
Syrup. simpl., ... āā 5.
Aquæ destill., ... 80.
Sig.—Dose, one to four small teaspoonfuls daily.

Or, we may use 100 parts of cod-liver oil and .01 part, by weight, of phosphorus, giving one or two teaspoonfuls a day; or, oil of sweet almonds 70, phosphorus .01, powered white sugar 20 parts by weight, ether 20 drops. One or two teaspoonfuls a day; or, oil of sweet almonds 30, phosphorus .01, powered gum-arabic and white sugar āā 15, distilled water 40 parts by weight. Dose, one or two teaspoonfuls a day.—*Deutsche med. Wochenschrift*, April 3, 1884.

PHYSIOLOGICAL EFFECTS OF AMORPHOUS DIGITALINE.—M. KAUFMANN, Chief of the Physiological Laboratory in the Veterinary School at Lyons, draws the following conclusions at the close of an elaborate article on this subject:

1. Digitaline does not cause diuresis, either in large or small doses, when given to healthy animals. Given by hypodermatic injections, or by the stomach, in the form of powder, it diminishes the quantity of urine, and increases the quantity of urea; given by the stomach, in liquid form and in small doses, it diminishes the amount of urea and of uric acid. It produces diuresis only in dropsies arising from circulatory troubles.

2. Digitaline acts as an energetic local irritant. Its general effects are most marked when dilute solutions are injected into a vein, or placed in the trachea or stomach; subcutaneous and intramuscular injections cause a fever of reaction.

3. Digitaline, in small doses, causes slowing of the pulse, followed by an acceleration when medium and

large doses are given. The slowing of the heart is due to bulbar and intracardiac irritation of the inhibitory system, and the acceleration is due to central paralysis of this system.

4. It increases the diastolic and systolic intracardiac pressure, and therefore the mechanical work of the heart. It gives an increased energy to the cardiac contractions, and increases the wave-volume.

5. During the slowing period, the cardiac contractions are often associated two or three together. During the acceleration the heart-beats are regular.

6. With small doses the pulse becomes stronger; with large doses it is at first strong, afterwards feeble. It often becomes double or threefold.

7. Small doses slightly increase the arterial tension by central and peripheral excitation of the vaso-motors; larger doses increase it at first, but it subsequently diminishes.

8. It diminishes the rate of flow through the arteries; it reduces the rectal temperature; and diminishes the quantity of urinary secretion in a healthy animal.—*Revue de Médecine*, May, 1884.

SPONDELOLISTHESIS.—SWEDELIN, after giving a detailed report of a personal observation, studies the termination of labor in all cases of spondelolisthesis known at present, and draws the following conclusions:

1. In contractions of slight degree, caused by olisthesis, the pseudo-true conjugate being less than three and three-fifths inches, delivery is not generally difficult.

2. In medium contractions, the pseudo-true conjugate being from three to three and three-fifths inches, labor at term is not generally serious for the mother and child. Very serious intervention is rarely necessary.

3. In very pronounced contractions, the pseudo conjugate being from two and three-fifths to three inches, labor at term is very serious for the child. The prognosis for the mother is not quite so unfavorable.

4. In extreme contractions, the pseudo conjugate being less than two and three-fifths inches, the head of the fœtus cannot pass without an operation.

5. For multipara, the prognosis of the expected labor is more serious as previous labors have been difficult.

As regards operative indications:

1. When the pseudo-true conjugate diameter is less than two and four-fifths inches, labor should be brought on in the thirty-second week.

2. When the pseudo-true conjugate is between two and four-fifths and three and one-fifth inches, labor should be brought on in the thirty-sixth week.

3. When the diameter is from three and one-fifth to three and three-fifths inches, the pregnancy may be allowed to go to term, unless there are no reasons for believing that it will terminate favorably, or the woman is depreciated in health by the pregnancy, in which case it is better to bring on labor in the thirty-sixth week. If the diameter is more than three and three-fifths inches, premature artificial delivery is not indicated.

4. When the pregnancy has gone on to term, one should hesitate, even with a pseudo-true conjugate of less than two and four-fifths inches, before operating on the fœtus, unless the mother is endangered, and then cranioclasty should be the choice. Cæsarean section should be the second choice. With a pseudo-true conjugate of two and two-fifths inches, the Cæsarean operation is indicated.—*Archives de Tocologie*, March, 1884.

SCLEROTINIC ACID IN EPILEPSY.—The preparations of ergot have already been used, with more or less success, in the treatment of epilepsy, but sclerotinic acid was first used by MM. BOURNEVILLE and BRICON, in 1882. They now administer it either in julep or hypodermatically.

In December, 1882, four epileptic children were treated with the following solution:

℞.—Sclerotinic acid, . . . grs. vijss to xss.
Distilled water, . . . f℥ijsss.
Carbolic acid. . . . grs. xss.—M.
S. Each injection should contain from gr. $\frac{1}{25}$ to $\frac{1}{12}$.

For hypodermatic use, the dose has not been greater than gr. $\frac{1}{12}$. The duration of the treatment was six weeks for one child, which died; six and a half months for two others, and seven months for the fourth.

For internal administration, the acid is given in an aromatic adjuvant (*julep*), morning and evening. Eight epileptics have been treated in this manner, the dose of sclerotinic acid progressively increasing by about gr. $\frac{1}{6}$ every week. The average duration of treatment for these eight patients was three hundred and fourteen days. Of the twelve patients treated by both methods, only five have been improved. These results are not very encouraging, but, under the circumstances, it may be worth while to experiment still further with this drug. —*Le Progrès Méd.*, May 24, 1884.

REMOVAL OF ASTRAGALUS FOR FUNGOUS OSTEO-ARTHRITIS OF THE ANKLE-JOINT.—M. ROBERT, at the close of an interesting article on this subject, draws the following conclusions:

1. Sprain of the foot is frequently followed by chronic bone lesions, which have a great tendency to be localized in the astragalus, or in the articular surfaces of the astragalus or calcaneum.

2. These lesions may be for a long while limited to the region of the tarsus, yet the simple means directed against the osteo-arthritis are often powerless—modifying injections and ignipuncture being usually inefficacious. Gouging, scraping, and deep cauterization are not certain methods for reaching the seat of the disease, and sometimes cause such an aggravation that amputation becomes necessary.

3. Removal of the astragalus is an operation which facilitates exploration of the articular surfaces affected with caries, and which enables the operator easily to remove the diseased parts. When done by. Vogt's method, it is easy, causes no severe injury, has only a small mortality, gives permanent cures, and, at times, excellent functional results.

4. As with all other resections, removal of the astragalus should not be performed when the subject is affected with pulmonary tuberculosis, or is very old, or when the lesions are very extensive.—*Archiv Gén. de Méd.*, May, 1884.

PRIMARY TUBERCULOSIS OF THE CONJUNCTIVA; EXPERIMENTAL INOCULATIONS IN THE ANTERIOR CHAMBER.—M. H. PARINAUD says that tubercles of the eye do not rarely occur as a primary lesion, especially in infants. If there is general infection existing, it is not shown by any positive symptoms in the lungs or other organs. Whether they develop spontaneously in man, or are the product of experimental inoculations in animals, tubercles of the conjunctiva are especially interesting, because they can be easily recognized, and in many cases we can follow out the characteristic evolution of the granulation.

Parinaud gives a detailed account of some experimental inoculations made in 1883. He introduced, through a wound made in the corneæ, into the anterior chamber of the eyes of a rabbit, the scrapings from an ulcer. In the right eye, a small fibrinous clot was enclosed in the wound. Three other rabbits, not inoculated, were placed in the same conditions of nourishment and hygiene. On the third day, there was intense ophthalmia of both eyes, characterized by hypopyon, diffuse cloudiness of the cornea, iritis, and injection of the globe. There was complete blindness. Parinaud believed the eyes lost. On the eighth day there was great amelioration of the inflammation. On the tenth day the hypopyon, which had occupied more than a third of the anterior chambers, had been in great part absorbed. The cornea of the left eye had recovered its transparency, save at the lower part and at the seat of the wound. The iris was easily examined, the pupil was dilated, and there were no adhesions. Vision seemed to be good. In the right eye the pupil was completely obstructed. On the twelfth day, there was a point of very limited vascularity running off from the pupillary border. On the twentieth day there were, at this point, two small, grayish granulations, which protruded from the border of the pupil. On the thirtieth day, new granulations appeared around the first, and became fused with them; others appeared at different points of the iris, the vascularity of which was increased.

At the seat of the inoculation-wound, there was a circumscribed yellow projection, upon which two small spots had the appearance of tubercles developing in the cornea. Lower down, at the situation of the hypopyon, where there were several whitish exudations, there was the same modification of the cornea. There was a little parenchymatous vascularity of the membrane. On the thirty-fifth day, the granulations of the iris had become yellowish, and were so fused together as to form an irregular caseous tract along the pupillary border. On the forty-fifth day, the cornea was opaque, and the iris could not be examined. The globe was vascular, and a little soft to the touch. The two corneal projections were larger, and formed two yellowish nodules. The cornea was infiltrated to the conjunctival edges. The lesions in the right eye were almost identical. The animal was completely blind, ate less, and lost strength. It was killed on the fifty-eighth day.

The autopsy showed the lungs filled with tubercles in different stages of evolution, from the grayish granulation up to tubercles as large as a small lentil, some of which were already caseous. These tubercles, very apparent to the naked eye, numbered about fifty; but under a glass, a great many transparent granulations were seen. There was no diffuse inflammation of the lung, the tissue of which, though everywhere injected with granulations, still preserved its elasticity. There were no appreciable granulations in other organs. On examining one of the eyes, it was found that the tubercles of the iris were much less apparent than during life, when the cornea was transparent. There was a yellowish, fibrinous exudation at the lower part of the anterior chamber, adherent to the cornea and iris. The two nodules of the cornea were formed by an opaque thickening of this membrane. One, situated on the sclero-corneal limb, involved the cornea, the conjunctiva, and the thickened episcleral tissue. The inoculating material had been carefully examined by MM. Marie and Vignal, and no bacilli discovered.—*Gazette Hebdom.*, June 13, 1884.

COMPLETE RUPTURE OF THE UTERUS; BIFID UTERUS.—M. L. SECHEYRON reports an interesting case of rupture of a bifid uterus. The patient was twenty-two years of age, and had always been in good health. At her first and normal pregnancy she was easily delivered. About three years afterwards she became pregnant a second time. In the eighth month she fell, and in trying to recover herself she felt a tearing sensation in the right flank, and immediately there was intense pain at this spot. After resting for a few moments she took a walk. The pain persisted for two days, when labor came on. It was then found that the fœtus had escaped, through a rent in the uterus, into the peritoneal cavity. The operator's (M. Bar) hand was passed through the rent and the child seized and brought out through the vagina. M. Bar then washed out the peritoneal cavity with a five per cent. solution of carbolic acid.

After the operation the patient was in a state of collapse, the pulse being 125 and thready, but she soon rallied, and for several days there was some hope that she might recover; she died, however, on the twelfth day.

The autopsy showed the presence of the usual adhesions and other appearances which were to be expected under the circumstances. The uterus was found to be bilobed. The left lobe, as large as the fist, had its axis inclined to the right, and from before backwards. The right lobe was less prominent, and occupied a plane posterior to that of the left, the external border of which appeared to have undergone a slight movement of rotation to the right, and from behind forwards. The right lobe was partly caught by a vesico-rectal peritoneal loop which terminated anteriorly at the posterior vesical wall, where its fasciæ seemed to spread out under the peritoneal covering of the bladder. Posteriorly it arose from the right side of the meso-rectum, near the median line. Each uterine lobe had a round ligament and a Fallopian tube. The cervix was sufficiently dilated to admit the index finger, which passed along a canal about two inches long and then came to the orifice of the rupture, situated between the two lobes and on a level with their junction. The cervix was split up to the point of rupture, and the left lobe opened toward the median line. The rupture was at the internal and lower part of the left lobe, the right not being involved. In fact, on the right the rupture seemed to terminate at the level of the vesico-rectal band. There was only one cervix, and between the rupture and the superior limit of the cervix there was a portion common to both lobes. —*Annales de Gynécol.*, June, 1884.

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SATURDAY, JULY 19, 1884.

THE CHOLERA.

THE progress of cholera during the past week has been such as to warrant the belief that it will spread throughout Europe during the next thirty days, and may reach our shores at any time. Its progress can be arrested only by the most watchful care on the part of our quarantine officers—for this disease has *always reached our shores by ships*. Scrupulous cleanliness on board ship, isolation of all suspicious cases, absolute destruction of the fomites of those infected, and special care that the water supply is not contaminated (boiling it before use if there is any suspicion of its being impure), would add greatly to securing the healthfulness of ships; while municipal cleanliness persistently and systematically carried out, would leave no nidus for the disease to gain a foothold, even should it reach our shores.

Protective measures have been instituted by nearly all the transcontinental powers, and a general feeling of alarm seems to pervade the larger cities which are in the line of the pestilential march. In Marseilles, where the disease is now raging, the excitement is represented as being intense, and the Workingmen's Commission, referring to the plan of depopulating the city, which leaves the poorer classes without employment, have issued a red placard with the words: "The action of the municipality has left us nothing but suicide or a hideous death from hunger or epidemic." It is stated that over 120,000 people have fled from Marseilles within the last ten days.

Our Government has cabled its consular officers at London, Liverpool, Marseilles, Havre, Bordeaux, Bremen, and Hamburg, to immediately appoint sanitary inspectors, whose duty it shall be to thoroughly inspect all vessels, merchandise, passengers, and crews, bound for United States ports, and to refuse clean bills of health in all cases except where such inspectors certify that the vessels are clearly entitled to them. The consuls are further directed to report by cable any vessel bound to the United States about which any suspicion of disease exists, in order that our local health officers may have timely warning of approaching danger, and be prepared to meet it.

TRAUMATIC CEPHALHYDROCELE.

IN an exhaustive paper, read before the American Surgical Association, and published in the *American Journal of the Medical Sciences* for July, DR. P. S. CONNER has collated twenty-two cases, including two of his own, of subfascial accumulation of cerebro-spinal fluid, of which nineteen were connected with and consequent upon simple fracture of the vault of the skull, and in three there had originally been a communicating wound of the scalp which had closed, two of these being cases of gunshot injury, while in the third the skull had been trephined.

The lesion has heretofore invariably occurred in young subjects, all, with one exception, in which the age was thirteen years, being three years and under, a fact which may be explained by the great elasticity of the skull in early life, permitting marked depression and fissuring of the vault without associated wound of the scalp, and by the more intimate connection of the membranes and skull in children than in youths and adults.

The diagnosis is not always easy when pulsation is absent, as it was in more than one-half of the cases, since, under these circumstances, the fluidity of the contents of the swelling and the thinness of the percussion-wave will excite the suspicion of a hæmatoma or a deep-seated abscess. The diagnosis, however, is clear when there is evident pulsation synchronous with the heart-beat; when there is increased fulness upon crying or holding the breath; when, upon pressure, a diminution in volume is readily effected, with or without resulting symptoms of cerebral irritation; and when the scalp is normal in color, and, it may be, translucent.

That the prognosis is bad is indicated by the fact that of the eighteen cases due to simple fracture, in which the result is known, nine died, and of the three in which the fracture was originally compound, one perished. In two of the fatal cases death was attributable to the treatment employed—incision and seton. Of the eleven recoveries, two exhibited a morbid mental condition.

Operative interference should be restricted to the removal by aspiration of a limited amount of fluid, but only when severe pressure symptoms have manifested themselves. In three of the recoveries an operation was not practised.

At the recent meeting of the German Surgical Association, the proceedings of which are recorded in the *Beilage zum Centralblatt für Chirurgie*, No. 23, VON WINIWARTER exhibited a boy, thirteen years of age, in whom a remote effect of the lesion under consideration, produced by permanent pressure, was well shown. When six months of age, the infant sustained a simple fissure of the right parietal bone, with the development, in a few days, of a characteristic cephalhydrocele, which was treated by compression, but which grew in proportion to the increase in the volume of the skull, until, finally, under the influence of the remedial agent, the bones were absorbed, leaving a defect, or loss of substance, five inches and a half in its long diameter, and two inches and three-eighths in its short diameter. The collection of fluid had, however, for some inexplicable reason, disappeared, and the defect was covered by normal skin; but that there still remained a loss of substance of the meninges was shown by the accumulation of fluid under the integuments when the patient was recumbent.

In the discussion which followed the reading of this paper, it may be stated that von Bergmann referred to a case reported by him at a former Congress, so that there are at present at least twenty-four examples of traumatic cephalhydrocele on record.

In his conclusions as to the treatment of this lesion Dr. Conner states that firm pressure will almost certainly produce or increase the symptoms of intracranial irritation; and the case of von Winiwarter shows that it exposes the patient to the danger of widening the original fissure, and ultimately inducing absorption of its edges, until a large defect results.

SUICIDE, AND ITS PREVENTION.

No one can read the daily papers without being struck with the present frequency of suicide. True, this is the season of the year when suicide occurs most frequently; and the recent great shrinkage in values, bringing financial ruin to thousands, has led some who, thinking themselves rich, and have not been able or willing to bear the losses which have brought them to poverty, to seek escape from this world. Both the season and financial reverses being recognized factors in the occurrence of suicide, time and active cause are favorable to this increase in the number of those who die by their own hand.

Another fact, which must be obvious to all who read these tragedies, is that in the great majority of cases those who thus die are men. They who have the more physical, and sometimes claim the greater intellectual strength, seem less able to bear up under life's ills, and, more readily, seek refuge in death. This difference in the sex of suicides is in part owing to woman's conscience being more active, and to her religious sentiment being stronger, for it would be foolish to claim that she suffers less in mind or heart or body, than man does.

Whether cases of suicide are only apparently more frequent now than a few years ago, it is certain that more occur in one week in the United States than can be found in the history of the Hebrew people during four thousand years. This seems like a sad commentary upon a civilization which is doing much for the benefit of man, and for the improvement of society. It becomes the philanthropist and the political economist to inquire whether there are not evils which may be removed, so that life, if not rendered more desirable, may at least be made more tolerable. These countless tragedies are a protest against life, a cry of sad despair; life is not worth living, is the acted declaration of every man or woman who perishes by his or her own hand. Cannot the value and the sacredness of life be increased, so that these horrors which often carry unutterable sorrow to many hearts may be diminished? Apart from any influence exerted by a wise political economy, and a generous philanthropy, by which the value of life will be enhanced, the estimate which is set upon it is closely connected with systems of philosophy, and with religion. To discuss these topics, however, would require too much space, and might suggest controversy.

What other means may be sought to prevent this great evil? Ptolemy made short work with the teaching of the Cyrenic philosopher, Hegesias, and thus arrested an epidemic of suicide; but Ptolemy does not govern in this country, and there is no arbitrary power to decide that the works of pessimistic philosophy which makes a cosmic suicide the goal of the race, should not be published. Esquirol, and several alienists since him, have expressed the desire that newspapers should be forbidden to publish cases of suicide, because these recitals may lead some readers to kill themselves. But in this country such legislation is impossible.

The chief means of prevention lying in the hands of physicians, is the timely recognition of the danger in a given case, and immediately putting the patient where self-destruction will be impossible. Thus many a suicide could and would be prevented. One of our great professional shortcomings is in not recognizing the premonitory symptoms of these acts, the heralds of these tragedies. In too many cases the symptoms are plain and the heralds give no uncertain sound, after the event. We do not know that this evil would be avoided by the plan suggested by Dr. Holmes in his last Harvard address, nor do we know that the plan is practicable, but our own observation may be quickened by reading it: "I have often wished," says our wise teacher, "that disease could be hunted by its professional antagonists in couples—a doctor and a doctor's quick-witted wife making a visit and attacking the patient—I mean the patient's malady, of course, with their united capacities. For I am quite sure that there is a natural clairvoyance in a woman which would make her as much the superior of man in some particulars of diagnosis as she certainly is in distinguishing shades of color. Many a suicide would have been prevented, if the doctor's wife had visited the victim the day before it happened. She would have seen in the merchant's face his impending bankruptcy, while her stupid husband was prescribing for his dyspepsia and indorsing his note; she would recognize the love-lorn maiden by an ill-adjusted ribbon, a line in the features, a droop in the attitude, a tone in the voice, which mean nothing to him, and so the brook must be dragged to-morrow."

One fact should be present in the physician's mind: Any one who purposes self-destruction is most probably suffering from physical disease, and in every case the accomplishment of the purpose should be rendered impossible either by immediate committal to an asylum for the insane, or by his being kept every minute under a qualified guard.

While referring to the subject of suicide, we wish to call attention to some recent interesting observations of VOISIN, in which he mentions the most important signs of suicidal insanity, and localizes the affection. He states that these patients ordinarily complain of violent bregmatic and sincipital pain, and the temperature of the parts where this pain is felt is notably increased. Clinical histories and post-mortem examinations have led him to the conclusion that the ideas of suicide in the insane are connected with functional disorders and lesions seated in the most internal of the ascending frontal and parietal cerebral convolutions.

Another noteworthy point in connection with the subject of suicide, is the partiality men have for destroying their lives by firearms, and the unfortunate facility with which these implements of destruction can be procured. Women who commit suicide use a pistol rarely, only one to fourteen men, for this purpose; they will hang, drown, take poison, stifle themselves with carbonic acid, or throw themselves over a precipice, rather than put an end to their lives by a bullet.

Among the most important means to prevent suicide is work. The man who is out of employment, who has been discharged from his place, or met with such financial reverses that his business is lost, is occupied brooding over his misfortunes until they grow in size and blackness, and death seems to him better than life. Give that man work for every minute of his waking hours, and he will have no time to think about destroying his life. Better work for nothing than to be idle. Work is the law, the fountain, the guardian, the reward of life.

FEMALE PHARMACISTS.

LOUISVILLE has the honor of having opened the first school in this country for the education of women in pharmacy, and so far the institution has succeeded. The annual commencement of this college recently occurred, and a part of the exercises of the occasion was an address by Dr. Yandell, which was plain, practical, wise, and suggestive. In it he pleasantly stated that, among other reasons for women being fitted to prepare medicines, they took medicine and gave it better than men, had more faith in it, and needed or thought they needed more than men.

One important truth among those which Dr. Yandell presented to the "girl graduates," was that, entering into competition with men, they must expect just the treatment men give their fellows: "You have chosen to align yourselves with man. You have become his competitor for bread, his rival in work; look for no other treatment than he gives his fellows. The lines of commerce are merciless, and true banking knows no friends." This truth is of great importance, and we sometimes think is not fully appreciated by all those who enter this contest, whether in the professions or trades hitherto occupied exclusively by men.

Undoubtedly woman possesses qualities which peculiarly adapt her to pharmacy, and her success she alone must determine; it is well that the experiment is being tried, for the just tendency of the time is to demand more and better paid work for women.

BIDDING FOR STUDENTS.

WE have had our attention called a number of times to a practice of a Baltimore medical college, of sending out with its catalogue a circular inviting the physicians receiving it, to recommend young men for admission on certain "special privilege" terms, which are set forth in the catalogue. A few days ago the catalogue of the school was received by us in the regular way, and between its pages we found a postal card having upon it the address of the Dean, and containing the printed form above referred to, with a line left for the insertion of the name of the student so recommended. On examining the accompanying catalogue, we find that the "privileged student" is admitted for half the usual fees, which, without this reduction, are less than those of first-class medical schools.

Such unlimited bidding for students can only have the effect of degrading medical education and lowering the institution which adopts it in the eyes of the better class of the profession—the very ones whose respect it should seek to win. And we would say for the benefit of the school concerned, that all who have commented on the matter to us have done so with a view to express decided disapprobation and contempt for the practice, of which the intent is so obvious.

The country is overrun with half-educated doctors who are a reproach to the profession and a danger to the community, and the conditions of admission to the profession should be made more, rather than less stringent. We have already stated in these columns how this can be done without excluding the properly qualified indigent student. Opportunities for free instruction should exist, but they should be limited, and scholarships awarded only to those who pass best in a stringent competitive examination.

REVIEWS.

ATLAS OF MICRO-PHOTOGRAPHS OF PATHOLOGICAL AND ANATOMICAL PREPARATIONS. Photographed and demonstrated by DR. RUDOLPH MENGER. Quarto, pp. about 40. Plates lxvii. San Antonio, Texas, 1884.

As a collection of photographs of pathological subjects, we regret to be compelled to say that this book is a lamentable failure, since most of the genuine productions might be readily mistaken for a series of views of the planet Jupiter, with his irregularly clouded surface, as seen through the telescope, or for veritable sun-pictures, exhibiting the dark spots upon our central orb which have so long puzzled astronomers.

Yet, as photographs of pen-and-ink sketches, many evince a remarkable talent, and one which Dr. Menger should spare no pains to cultivate. Plate xli. shows in its upper half a beautiful picture of one of the planets, and in its lower semicircle an exquisite drawing of cancer of the fundus uteri. But the most remarkable of the series is Plate xix., purporting to be a photograph of adenoma of the kidney, in which, under a magnifying glass, the borders of the cells and the connective-tissue fibres exhibit—as do those of Plate xli.—the same notches and occasionally retouched outlines which characterize the marginal reference letters and their accompanying braces.

To the working microscopist this work is almost as great a curiosity as the book entitled *English as She is Spoke* is to a philosophical linguist; so that we venture to predict for the volume an eager, though perhaps limited demand.

SOCIETY PROCEEDINGS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, June 18, 1884.

THE PRESIDENT, WM. M. WELCH, M.D., IN THE CHAIR.

DR. JOHN S. MILLER presented a paper entitled

ETHERIZATION BY THE RECTUM; REPORT OF FOUR CASES BY YVERSEN'S METHOD.

He said, I desire to report four cases of etherization by the rectum, a method of producing anæsthesia first suggested by Dr. Axel Yversen, of Copenhagen.

These cases were in my recent practice; and to Drs. Louis Jurist and A. B. Hirsh, I am indebted for assistance rendered, and for many of the observations made. In two of these cases the mucous membrane of the bowel was prepared for its respiratory function, as it ought to have been in all, by a restriction of diet and the use of purgatives. No preliminary hypodermics were used. The method of administering the ether was simple. A definite quantity was placed in a bottle (only partially filling it), was vaporized by a water-bath at 120°, and the vapor conducted to the rectum by a rubber tube, terminating in a recurrent catheter, the free or recurrent end being closed by pressure of the thumb during the inflation of the bowel; the expiratory act was performed by removing this pressure, and removing the water-bath.

The first case was one for minor operation, demanding only primary anæsthesia. This patient had not been prepared, and sufficient precaution was not taken against the introduction of ether vapor in too great a quantity, and of liquid ether, by an overboiling in the apparatus. Almost immediately he complained of burning and tenesmus, the abdomen became promptly and greatly distended, and there were colicky pains. In about one minute he noted the taste of ether. A portion of the vapor was allowed to escape, and no more was given. The pain ceased, intoxication soon began, and in six minutes he was sufficiently anæsthetized for operation. The pulse was full, and respiration was easy. Two minutes later he returned to consciousness, but seemed dazed. The struggling had been trifling. There was no vomiting, and no diarrhœa followed. One ounce of ether was used.

The second patient was an adult male, from whom I removed an exostosis of the vomer—an operation requiring full anæsthesia. In this case a sufficient laxative had been given the previous night. Two hours before the operation he had been allowed an ordinary breakfast. This patient, too, experienced a prompt burning and discomfort in the rectum, but at no time great, and soon ceasing. Ether was tasted in about two minutes, and noted on the breath. The abdomen seemed distended and some cramp-like pains were experienced. A considerable amount of vapor was then allowed to escape—with instant relief. After waiting two minutes without the development of further phenomena, a somewhat less amount of vapor was introduced, and (the catheter being withdrawn) was left for gradual absorption. The stage of excitement was short, marked by a pleasant delirium, and without motor activity. Full anæsthesia was obtained in eleven minutes from the first introduction of the ether vapor, and was perfectly maintained during the eight minutes of operation. Escape of the residual vapor was secured by a gentle kneading of the abdomen, and separation of the nates. The posterior nares not having been plugged, considerable blood regurgitated from the stomach after operation. This vomiting cannot, with any certainty, be attributed to the ether. No diarrhœa followed. An ounce and a half of the anæsthetic was used.

The third patient, also an adult, robust male, was subjected to acupressure of the internal saphenous vein, with destruction by means of Vienna paste of several neighboring vessels—an operation also requiring full anæsthesia. He had received a laxative the day before, and an enema on the morning of operation, and had taken a moderate breakfast. The sensation of warmth and tenesmus was immediate, but soon ceased. The abdomen became distended, and he complained of epigastric pain. A partial escape of vapor was permitted, and he had instant relief. A few minutes later the bowel was again inflated, and the tube withdrawn. Enough vapor remained after withdrawing the tube to produce complete anæsthesia in a total of fifteen minutes, and no further introduction was required to maintain it. There had been almost no stage of excitation, and no other phenomena than an immoderate laughing. He recovered promptly. No vomiting or diarrhœa followed. A little less than two ounces of ether were used.

The fourth case was that of a medical gentleman in good health, whose love of science led him to volunteer a passive part in these experiments. This time the bowel had not been prepared, although an ordinary movement had taken place five hours previously. On introducing the vapor, there were slight burning and tenesmus, but no cramps. Intoxication was soon induced, and the doctor seemed most of all to enjoy the proceedings. Pulse and respiration were normal. A lively peristalsis now put an end to this mode of administration, and terminated the experiment.

The only reason for quoting this case is the evidence it furnishes for the necessity of preparing the bowel—a necessity which excludes this method of etherization from our resources in accident and emergency cases.

This case completes the four, and I have had no other opportunities for observation.

Some question having arisen as to whether the vapor really does pass the ileo-cæcal valve, I deemed this a subject for legitimate vivisection, and, etherizing a cat per rectum, opened the abdominal cavity, and noted that the small intestine was as greatly distended as the large.

In this method of etherization, the most obvious advantages are as follows:

1. Dyspnœa is avoided, and the patient is saved from the anxiety due to a sense of impending suffocation.

2. There is avoided the danger of simultaneous irritation of the superior laryngeal and pneumogastric nerves at the periphery—these irritations neutralizing each other in the respiratory centre, and suspending respiration entirely.

3. The danger of asphyxia is lessened—the patient not being drowned in his own mucus, and the integrity of the pulmonary mucus membrane as an organ of gas exchange is preserved. Of course, some vapor finds itself in the lungs, and acts there as a local irritant--elimination being by that channel. But the quantity is not great, and does not constitute a source of danger. In the cases reported, the increase in secretion was too trifling for discovery.

4. The stage of excitation is therefore not prolonged by the struggles for breath. In general, it may be said that the delirium of any alcoholic intoxication is a pleasant and good-natured one, unless the patient is crossed—as he certainly feels himself to be when a wet towel is pressed over his face.

5. Nourishment may be taken before operation to sustain the powers of life, and lessen the dangers from shock.

6. Return to consciousness is prompt—this stage not being prolonged by carbonic acid poisoning.

7. The anæsthetic seems as readily suspended as by the ordinary method—the bowel being promptly emptied by gentle massage.

8. Economy in ether is an advantage hardly to be mentioned with more important considerations.

The more obvious disadvantages are:

1. The exposure of person required—the abdomen being necessarily under observation, even if the catheter be inserted under cover.

2. More judgment and experience are required in the administration, than by the ordinary method—over-boiling in the apparatus, and too much distention, being both painful and highly dangerous. The warning to cease is sudden, and must be immediately obeyed.

3. Just as the other mode is inconvenient in oral surgery, so in perineal operations is the apparatus needed for this method, in the way.

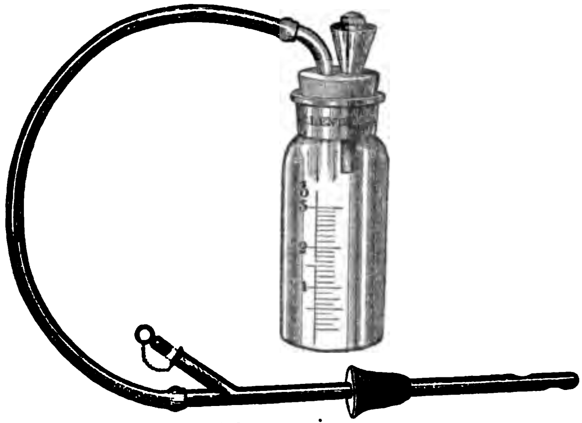
4. In abdominal surgery, or if there be marked intestinal lesion, this mode is contra-indicated.

5. The inapplicability in cases of accident and emergency, when time cannot be allowed to prepare the bowel, has already been mentioned.

6. Diarrhœa has been noted in seven out of the thirty-seven cases on record, though in none of mine.

I believe this sequel is due to preëxisting intestinal lesion, to the lack of preparation, to a too great distention of the bowel, or to the accidental introduction of ether in liquid form. Furthermore, my method has differed from that of other experimenters in this respect, that instead of allowing the vapor to remain indefinitely, I secured a constant change by using a recurrent catheter, and introducing a certain quantity, or permitting it to escape, as indicated.

Other points of advantage and disadvantage may occur in later experience, and to other observers, and new dangers may be discovered. But I am convinced that this method is worthy of further trial, and will find its place in surgery, fulfilling its own, though not *all*, indications. Like all else in therapeutics, it must pass through the stages of bungling use, condemnation, and revival.



C. Lentz, Phila.

Dr. Miller then exhibited a form of apparatus which he had had made by Charles Lentz & Sons, No. 27 South Tenth Street, for this purpose. It consists simply of a water-bath, a graduated bottle provided with a funnel and valve for pouring in the ether, and a supply-pipe for conducting the vapor to the rectum. This tube terminated in a straight recurrent catheter, the exhaust-channel of which is controlled by a valve. The catheter is furthermore provided with a movable collar for pressure against the anus—it having been found that the vapor tends to escape by the side of the tube.

THE NEW YORK ACADEMY OF MEDICINE.

Section of Obstetrics and Diseases of Women and Children.

Stated Meeting, April 24, 1884.

Alexander S. Hunter, M.D., in the Chair.

Dr. A. Jacobi read a paper on

THE MEDICINAL TREATMENT OF MEMBRANOUS CROUP.

He commenced by saying that in 1868 he formulated the indications for tracheotomy in croup in the following words: "There ought to be no contraindication when the prominent symptom is dyspnœa and suffocation. I cannot imagine any complication of croup that would prevent me from opening the trachea when the child is dying of suffocation. This is so plain to my understanding that I should consider it more a cruelty to refuse tracheotomy when I know beforehand that the child was surely going to die. Whoever has seen children die of croup, fully conscious, gasping, raving for air until they are slowly strangled in your arms, under your eyes, will at least bless a proceeding, the consequence of which will in most cases be an easier death. Nor do I acknowledge that tender age, the age under two years, ought to be held as a contraindication to the performance of the operation." Such were the principles, he said, on which the operation of tracheotomy was based, and he would as soon think of refusing to cut down a man who was hanging by a rope about his neck, even though he might be the subject of tuberculosis or carcinoma, as of refusing to perform it in any case in which the indications mentioned were present. Monté had collected 12,736 cases of croup with general diphtheria, in which no less than 3409 were saved by tracheotomy.

At the time that he read his paper on the pathology and treatment of croup before the Medical Society of the County of New York, in 1868, he was accused of cutting altogether too many throats; as up to that time tracheotomy was comparatively rarely resorted to, in New York, except by Drs. Roth, Voss, and Krackowizer. The latter up to that time had operated in fifty-six cases, all of which, with one exception, were in the city. Since then, however, the drift of medical opinion had gradually changed. The extent of this change had been very great, and at the recent discussion of the operation in the Section he had been gratified to see that eminent physicians who had been especially identified with the medical treatment of croup had advocated it so freely. Every practitioner of medicine, he thought, ought to be prepared to perform the operation at any moment, and he believed that there were now hundreds of medical men in New York who were ready and anxious to do it whenever an opportunity presented itself. For himself, he had now performed tracheotomy four hundred times or more, while he had witnessed it in several hundred other cases.

When such, therefore, were his sentiments in regard to tracheotomy, and when such had been his experience with it, he would not be accused, in preparing the present paper, of advocating medicinal treatment to the exclusion of operative interference. Dr. Jacobi then gave a sketch of two cases of croup, in one of which the child was a little over, and in the other a little less than, two years old, which had been under his care at the Mount Sinai Hospital. The patients were placed under a tent, the temperature of which was kept at 70°, and which was constantly filled with steam and the vapor of turpentine. Neither of the cases was of great severity, and neither was of septic character, and they were treated with one-thirtieth grain doses of pilocarpine muriate, in accordance with the method of Guttemann. In regard to the efficiency of this drug, he had not modified the opinion which he had expressed at the meeting of the American Medical Association in 1881. This remedy had been recommended as a specific, but the real efficacy of such new agents was to be tried, not in moderate cases, which would probably recover without any treatment, but in severe ones, and for that reason he had first used pilocarpine in severe cases—in cases of nasal diphtheria and in the septic form of pharyngeal and laryngeal diphtheria, with or without glandular swelling. In not a single instance had he seen the slightest favorable effect; but, on the contrary, he felt sure, from two or three observations, that the fatal termination was certainly accelerated by the influence of the remedy. So far as we know, pilocarpine, either directly or indirectly (by producing vomiting), debilitated the heart's action, and when the pulse was frequent and small, the action of the heart feeble, and the tendency to collapse prevalent, as in many cases of serious diphtheritic affection, the agent could do no good whatever. Of the cases referred to at the Mount Sinai Hospital, one recovered under the treatment mentioned, and in the other the pilocarpine had to be withdrawn in two days, on account of its severe effects, notwithstanding the fact that alcohol was administered freely to counteract its debilitating influence. This child's final recovery seemed to be due, in the first place, to the macerating effect of the pilocarpine upon the pseudo-membranes, and, secondly, to the timely withdrawal of the remedy. Another child, three years of age, recovered with a fair amount of strength after taking pilocarpine for four days. In Dr. Jacobi's opinion, it was a powerful remedy, useful under certain conditions, but one the depressing effects of which it was necessary to watch with great care and counteract.

In numerous cases he had employed steam inhalations. In regard to the efficacy of this means of treatment, he had not changed the views that he had expressed in his treatise on diphtheria, published in 1880. It is true that pseudo-membranes, like everything else, became softened by the warm vapors. It was also probable that steam increased the secretion of the mucous glands, and thereby possibly loosened the overlying membranes, and favored their removal; but it was not to be forgotten that it also softened the healthy tissues, and that this change in character enabled the poison, whatever its nature, to penetrate more deeply into them. The results from the inhalation of steam in diphtheria of the larynx had not always been pleasant. He had repeatedly had the joy of seeing children with croup become less cyanotic after their removal from an atmosphere of vapor, and he could readily see that pure atmospheric air might be more agreeable and wholesome to a child with stenosis of the larynx than an atmosphere laden with steam. Steam for the purpose of softening the tissues, and of provoking the secretion of mucus and suppuration, had been used to a very considerable extent, both in this country and in England; and he had seen cases of fibrous bronchitis getting well, when he had every reason to attribute the recovery to the persistent use of this agent. In one case, he had shut up a baby in a small bathroom with one window, and let the hot water run continuously for days, so as to produce a constant fog, and make every person in it dripping. The result was highly gratifying, as the baby got well; and so did another, whom he had the good fortune to benefit by his experience in that case. Individualizing was a great art, but in regard to steam therapeutics it was not so difficult. The object of the steam was to soften, but principally to increase the secretion from the mucous membrane, and thereby throw off the superjacent membrane. This could be done to advantage only when there was a natural tendency to it, and that was where there were a great many muciparous follicles under a cylindrical or fimbriated epithelium. This was the condition in part of the pharynx, but not in the tonsils, in a small portion of the larynx, in the trachea and bronchi, but not in the vocal cords. Wherever there was pavement epithelium on the normal surface, and where the membrane was embedded into the tissue, steam could hardly be expected to do good. In the other cases it would. Thus, the locality of the diphtheritic process determined to a great extent whether steam was indicated or not. If it were used, however, the necessity of a full supply of atmospheric air was not to be disregarded. Steam with an overheated room, and without pure air, was liable to be as injurious as steam in pure air was beneficial in a number of cases. The object for which steam was inhaled was to soften and remove membranes. When that could be accomplished without reducing the required amount of oxygen, all was well; but when respiration was annoyed or interfered with, the contraindication to steam was as clear as the indication in more favorable cases.

Turpentine had of late years been highly recommended in croup and diphtheria, and he could only repeat his former assertions in regard to its employment. For years he had been in the habit of using turpentine, either the oil or the rectified spirits, as an inhalation in bad cases of pneumonia, in which hepatization was very extensive, and expectoration and resolution did not commence, with very good result in children and adults, and the method he had employed was equally applicable in croup. The vapors of turpentine were so volatile and penetrating that the usual method of inhaling from an apparatus appeared to him superfluous; so that he allowed the patient to remain in bed, while water was kept boiling constantly on the stove or over an alcohol lamp or gas-jet. A tablespoonful, more or less, of rectified spirits or oil of turpentine, was poured on the water, care being taken that none of it was spilled in the fire; and thus the room was constantly filled with a penetrating odor of turpentine, which was not at all disagreeable, even when in great concentration. The effects were very satisfactory. When circumstances allowed or required it, he was in the habit of raising a tent over the bed, large enough not to give inconvenience to the patient, and to admit either the whole apparatus or the tube containing the mixed vapor of water and turpentine. This plan he followed in a case of laryngeal diphtheria in a little girl, two years old, in the children's service of the Mount Sinai Hospital. The baby was in a room of her own, with a nurse, and a tent was raised over the bed. Four days and nights she was exposed to the water and turpentine treatment, awake or asleep; and the presence of the nurse under the tent with her was insisted upon by the patient whenever she was awake. The case was not allowed to become, or, at all events was not a very serious one, but was serious enough to be diagnosticable, to produce hoarseness, aphonia, and dyspnœa, and to render the perception of pulmonary murmurs impossible, though there never was cyanosis, with the exception of a slight hue on the upper lip.

Dr. Jacobi then said that he would now select one topic for discussion which seemed to him of considerable importance, but was not a new one, and that was the use of mercury; after which he proceeded to give an exhaustive *résumé* of the opinions of various authors, for and against, up to the present day. He first mentioned Dr. Samuel Bard, who, in 1771, recommended the administration of from three to five grains of calomel a day, and then Dr. Rush, who also advocated its use in his *Medical Inquiries*. Among the others to whom he referred were the following: Bretonneau used mercury not only internally, but by inunction in the form of the ointment, and with good effect. Guersant favored it, but Trousseau was wholly opposed to its employment, and on account of the weight of his authority it sank into almost entire disuse for a considerable time in France. After alluding to a number of German and English writers, who for the most part favored its use, he quoted from Dr. George B. Wood, of Philadelphia (*Practice of Medicine*), 1847, Bourgeois, 1850, Barum, 1861, and Bartles, 1867. The latter reported forty-one cases of croup, five of which recovered under the use of mercurial inunction. After long experience with the drug, however, he discarded it. Oppolzer used calomel and iodide of potassium; Senator, calomel and antimony; and Rauchfuss, calomel with oxysulphuret of antimony, the ointment, and hypodermatic injections of the corrosive sublimate. Dr. Jacobi then alluded to the views which he himself had expressed in his work on diphtheria, in which he stated that in regard to the action of mercurial remedies he was no longer so sceptical as he had been a quarter of a century before, and admitted that the experience of many subsequent years had changed his opinion to a certain extent. He quoted as follows: "I also know that when the constitutional effect of mercury could be obtained speedily, cases of fibrinous tracheo-bronchitis got well in an unexpected manner. To accomplish that, it is necessary to give small doses very frequently. Calomel, grs. viij to xij, divided into thirty or forty doses, of which one is taken every half hour, is apt to yield a constitutional effect very soon. Such doses, with minute doses—$\frac{1}{60}$th grain or more—of tartar emetic, or ten or twenty times that amount of oxysulphuret of antimony, have served me well in fibrinous tracheo-bronchitis. But the mucous membrane of the trachea and bronchi is more apt to submit to such liquefying and macerating treatment than the vocal cords. The latter have no muciparous glands like the former, in which they are very copious. And while the tracheal membrane is apt to be thrown out of a tracheal incision at once, though of more recent date, the pseudo-membrane of the vocal cords takes from six days to sixteen or more for complete removal." He next went on to say that if ever mercury was expected to do any good in these cases of suffocation by membrane, it had to be made to act promptly. That is what the blue ointment did not do. In its place he recommended the oleate, of which ten or twelve drops might be rubbed into the skin, along the inside of the forearms or thighs, every hour or two hours. In place of, or in addition to this, repeated doses might be given, as recommended above, or hypodermatic injections of corrosive sublimate in a one-half or one per cent. solution of distilled water, four or five drops, from four to six times a day. Dr. Horatio C. Wood, in his *Therapeutics*, said that calomel was useful in severe laryngitis, and especially in the pseudo-membranous variety, when the type was sthenic; and no time should be lost in bringing the system under its influence. In whatever disease a mercurial was administered as an antiphlogistic, it should be given during the stage of exudation, and to facilitate the absorption of the newly organized lymph after it had ceased to be thrown out. In the majority of cases, mercury given for its constitutional effects should be combined with opium, to prevent its acting on the bowels. Calomel should not be used in adynamic inflammations, or where the exudation was serous rather than fibrous. In Reynolds's *System of Medicine*, mercurials were hardly mentioned in this connection. J. Lewis Smith, in his work on diseases of children, said that calomel, which had been largely prescribed in times gone by for its supposed "antiplastic" action, had been properly laid aside, and Roberts Bartholow, in his *Therapeutics*, expressed himself as very sceptical in regard to the utility of the remedy.

Erichson, of St. Petersburgh, was the first to recommend the cyanide of mercury, and he used it in patients from seven weeks to thirty years old; one-hundredth of a grain every hour being given to young children. In twenty-five cases of croup it was successful in all but three, in which the fatal result was due to complicating causes. In all, the diphtheritic process became extinct. Another writer reported only three deaths out of ninety-eight cases treated by the cyanide, but stated that the remedy had no effect if the larynx was already affected with stenosis. Schultz had used mercury hypodermatically with success, and employed the cyanide principally. Meigs and Pepper (*Diseases of Children*, sixth edition, pp. 100 and 101) said: "Calomel is the preparation almost always preferred, and many authors still recommend the administration of this remedy, in larger or smaller doses, in the earliest stage of the attack. During late years our increased dislike of the administration of mercury to children in large and frequently repeated doses, and the constant observation that even its free use does not appear to arrest the cause of true croup, or prevent the formation of membranous exudation, have led us to abandon entirely its employment in this disease."

It was evident, from the various authorities that had been quoted, Dr. Jacobi continued, that the difference of opinion in regard to the value of mercurials was very great; but one fact was noticeable, viz.: that, as a rule, the text-books, which were based on acknowledged facts only, were more or less unfavorable in their judgments, while the writers who spoke from their own personal experience generally appeared as the friends of the mercurial treatment. His own opinion, of 1880, had been somewhat still further modified in favor of mercury, especially the bichloride, and he had been particularly impressed with the statements made by Dr. William Pepper in his Address in Medicine at the meeting of the American Medical Association in 1881. In the course of this he said: "But I cannot omit a passing reference to the remarkable results that have recently been observed to follow the use of large doses of bichloride of mercury in diphtheria. The original paper that brought this subject to my notice was by Dr. G. A. Linn, of Washington County, and was published in the *Transactions of the Medical Society of Pennsylvania*. The extraordinary statements there made have been confirmed by the experiences, as yet unpublished, of several competent observers." Having then related a case which he saw in consultation with Dr. T. J. Yarrow, of Philadelphia, in which a child, five years old, apparently in *articulo mortis* from diphtheritic croup, was saved by doses of one-thirty-second of a grain of bichloride of mercury, given every second hour in solution in elixir of bismuth and pepsin, with two drops of tincture of nux vomica, he concluded his remarks on this subject as follows: "The extraordinary tolerance of such large doses of bichloride of mercury, and the rapid and progressive improvement from so desperate a state, make me regard this as one of the most remarkable cases I have ever witnessed, and will certainly induce me to give further trial to this remedy, given in the same manner, in cases of grave diphtheritic infection."

Dr. Jacobi then went on to say that, while he had of late met with a gratifying measure of success in the use of the mercurial treatment, he was not one of those who "had never lost a case." As to the preparations of mercury to be used, he thought it was best to use a very few, and to give them them a thorough trial, and none of them apparently offered the advantages of the bichloride. It was best to give it largely diluted, say about one part to three thousand of water (one grain to the quart), and, as an albuminate or a peptonate would be formed, gastric and intestinal disturbances would be avoided. Having spoken of the extraordinary power of the bichloride as a germicide, mentioning in figures, as determined by actual experiments, its great superiority to phenic acid, thymol, salicylate of sodium, carbolic acid, quinine, and other antiseptics, he referred to a paper on "The Treatment of Diphtheria and Croup by Large Doses of Bichloride of Mercury," recently read by Dr. William M. Thallon, of Brooklyn, before the Kings County Medical Society, and published in the *New York Medical Journal*, for April 12 and 19, 1884. In this, he reported ten successful cases, and in his remarks upon them said that it was very difficult, indeed, impossible, to draw a positive therapeutic conclusion from treatment used in sporadic cases only, and he, therefore, acknowledged that the value of the bichloride of mercury treatment would not be established until it had proved efficient to cope with a severe epidemic of diphtheria. Still, enough had been shown, he thought, to warrant the claim that this mode of treatment was well worthy of a more extended trial; and the hopelessness and confusion of all other methods are such as to make us eagerly resort to one which was so plausible as this, and one that already had so much clinical evidence in its favor. If the bichloride were used hypodermatically, Dr. Jacobi advised that chloride of sodium should be added to the solution injected.

After tracheotomy had been performed, care should be taken that the temperature of the room should not be too high—not much over 70°—and that the air should be kept moist; this could readily be done by means of an ordinary kettle, to the spout of which a tin cylinder was attached, so that the steam should not escape up the chimney. Gas-stoves were very injurious, however, and were never to be used for heating the water. If it were deemed advisable, the child could be placed under a tent, and steam, charged with the vapor of turpentine, as previously referred to, introduced by means of a tube. As before, however, it was of primary importance that oxygen should not be excluded. In a child suffering from descending diphtheria, who was in convulsions from poisoning by carbonic acid gas, he had been enabled to check the convulsions by the introduction of oxygen through the tube in the trachea. Moderate feeding and the use of stimulants were to be resorted to soon after the operation. As to the employment of internal treatment, whatever remedy the child had been taking before was still to be continued—no change being advised unless a change in the symptoms occurred. Broncho-pneumonia not infrequently set in within a few hours after tracheotomy. Where this complication ensued quinine by hypodermatic injection was advised, and the best preparation for the purpose was the carbimide. Salicylate of sodium and sulphate of strychnia (one-twenty-fifth of a grain every two hours till four or five doses had been taken) were also useful, and small doses of digitalis, promptly given, were recommended where the heart required it. Every case must be treated according to its special circumstances. Alcohol would undoubtedly be needed, and camphor might be of service. In cases of urgency, when collapse seemed imminent, Siberian milk was advised. In short, the disease was not to be treated in a routine way because of its name, but in accordance with the actual indications present in the special case presenting itself.

Dr. Jacobi stated his conclusions as follows:

1. The mercurial treatment of membranous croup was promising of good results.
2. The bichloride appeared to be the best preparation for this purpose.
3. The remedy should be given early and frequently repeated.
4. The bichloride should be well diluted (about 1 to 3000).
5. To babies about half a grain should be given in the twenty-four hours, and, as a rule, its administration could be kept up for many days, if necessary, without bad effects.
6. Stomatitis or salivation is very rarely observed, and gastro-intestinal disturbances are not frequent under its use.
7. If any unpleasant consequences result from the bichloride, inunction by the oleate of mercury is advised in its place.
8. If the treatment of the diphtheritic disease be undertaken in time croup may often be prevented, as this is believed to be due to descending pharyngeal diphtheria.

At the conclusion of his paper, Dr. Jacobi referred to three cases which he said he had selected out of a large number of others as samples to show the efficacy of the bichloride treatment. The first was that of a child two years of age, whom he had seen in consultation with Dr. E. J. Hogan. It commenced as a mild pharyngeal inflammation. In the evening the medical attendant left the patient in excellent condition, but was summoned at 3 A.M. to find that alarming dyspnœa had suddenly set in. Turpeth mineral was promptly given, and this produced partial relief, but also gave rise to profuse diarrhœa, which lasted for twenty-four hours. The next day the child was found to be steadily growing worse. The pulse was from 150 to 160, and the respirations from 50 to 66 to the minute, while there was epigastric and supra-sternal recession. Carbonate of ammonia was now given, but the condition of the child becoming more and more alarming, tracheotomy was advised and performed. No membrane had been detected in the throat or nose, but its presence was now revealed in the trachea. The wound was treated with a solution of bichloride of mercury (1 to 2000) and iodoform, while Dover's powder was given internally. After a time the patient began to suffer again from increasing obstruction, and Dr. Jacobi was called in consultation. By his advice one-thirty-second of a grain of bichloride of mercury was given every hour, and from this time on the recovery commenced. The remedy was discontinued on the third day, on account of the gastro-intestinal irritation which it occasioned. In this case the bichloride was commenced when the rapid formation of thick membranes was going on, and when there was every indication of approaching death; and Dr. Hogan remarked that his experience in it had been such that in any similar case he should feel that it would be a neglect of the patient to withhold this remedy.

The second case was one of croup, in a child of twenty-one months, occurring in the course of pharyngeal diphtheria. One-twentieth of a grain of bichloride of mercury was ordered every hour for three days, and the child recovered. The third case was seen by Dr. Jacobi in consultation with Dr. T. Herring Burchard, who read the notes of it. An infant five months old suffered from a very bad attack of fibrous laryngo-tracheo-bronchitis, and for a number of days in succession it was given one-fiftieth of a grain of bichloride of mercury every hour. At one time the child became markedly cyanosed, on account of the accumulation of mucus in the throat, and was supposed to be dying; but by placing it in an inverted position the mucus was dislodged. Towards the close of the attack inunction by the oleate of mercury was substituted for the bichloride for a time. A good recovery was made. When Dr. Burchard had finished the history of his case, Dr. Jacobi made a few final remarks, in the course of which he stated that in the last fourteen years he had never had so many recoveries in croup, either before or after the operation of tracheotomy, as during the last year, when he had extensively used the bichloride of mercury.

Dr. W. E. Forest stated that two years ago he treated a case of croup, in a child seven years of age, which continued to grow worse until the end of four days, when there was complete aphonia, and Dr. Jacobi was called in. He advised one-twentieth of a grain of bichloride of mercury every hour; but three doses of the medicine brought on such violent tenesmus that the dose was reduced to one-fiftieth of a grain, after which there was no further trouble of this kind, and the child made a good recovery from the attack. Since that time he had used the bichloride extensively, and a very large number of his cases had recovered. It was certainly a fact that in his treatment of croup when the trouble was not so much of the diphtheritic variety as of an inflammatory type (not commencing first in the pharynx), the bichloride (in doses of one-fiftieth grain) had acted surprisingly well. In addition, he was in the habit of using inhalations of steam from Codman and Shurtleff's atomizer, in preference to charging the air of the whole room with vapor. He kept the temperature at about 70°, and took care that the patient should have plenty of fresh air. Into the hot water in the atomizer he had a teaspoonful of "Listerine" poured, as a disinfectant; but he could not say positively whether this was really of service or not. In one case that he saw in consultation, the child was evidently suffering in consequence of the temperature of the room, which was so high that it was perspiring profusely, while its pulse was 180. In about two hours after the air had been rendered properly cool, however, the pulse came down to 110, and the child was much more comfortable in every way. This case also recovered under the use of bichloride of mercury.

Dr. John C. Peters said that since the year 1845 he had seen every variety of treatment practised in so-called membranous croup, which was a disease for which so many remedies had been suggested that every one was entitled to his own views on the subject. In his own practice he had used antimony, iodide of potassium, iodine, and various other agents. For many years, however, he had treated almost all his cases of diphtheria with chlorate of potassium, crystals of the salt being placed dry upon the tongue. In his views of the pathology of this disease, as of many others besides diphtheria, he was a strict localist, believing that the trouble began in the throat and that from this absorption took place, and the general system became infected. Among the other drugs that he had used, also dry upon the tongue, were gallic acid, tannin, and alum. These astringents were not mixed with sugar or anything else, and he was sure that he had seen bad cases recover under their use in this way, as also under the effect of pepsin given in the same manner every half hour. The only adjunct that he employed was simple syringing with warm water to which salt, chlorate of potassium, or lime-water had been added. He had known one case to be treated successfully by a Cuban negress with a drug from Jamaica known as didividy, which seemed to be a bean in a pod something like the locust. It was used in infusion made with vinegar, and its medicinal properties were undoubtedly those of a simple astringent. Many years ago Trousseau and Bretonneau were appointed to investigate an outbreak of what was presumably diphtheria in a small district in France. The mortality was so great that sixty out of a population of six hundred perished; and they found, to their surprise, that the only one who had any success in the treatment of the disease was a female hog-doctor, who had a secret remedy for what she called "white sore throat" among pigs. This proved, on investigation, to be nothing more than a solution of alum in vinegar, and, on account of the good results obtained by it, alum came into general use. For his own part, Dr. Peters said, he had gradually arrived at the opinion that diphtheria was curable by more than one remedy. He had not as yet tried the bichloride of mercury, but he should be apt to use calomel dry upon the tongue.

Dr. J. Lewis Smith remarked that the Seniors present would, no doubt, recall when calomel was in common use in the treatment of membranous croup. Before diphtheria appeared in this city in 1858, quite a notable case occurred at the Astor House. This was one of croup in which a number of eminent medical men pronounced that it was impossible that the child could live. As the case was so hopeless, a physician from the same place as the family of the latter, gave it, as a last resort, a dose of twenty grains of calomel dry upon the tongue, and from that time it began to improve. A prominent practitioner in New York still believed in the power of large doses of calomel, if given at the outset of the disease, to moderate its severity. He was sceptical himself about this, but he could not see that there would be any great objection to trying one large dose of calomel in the possible hope of its thus modifying the course of the attack; though he certainly should be unwilling to continue the use of the drug afterward. When diphtheria appeared here in 1858 the profession were disappointed in the effect of calomel, which was found only to add to the prostration incident to the disease, and the use of mercurials gradually became abandoned in New York, except by a very few.

Recently, however, there had been a revival of the mercurial treatment, and now the special preparation recommended was the bichloride. Dr. Smith then said that he had very carefully read the paper of Dr. Thallon, to which allusion had been made, and that he must say that he had failed to become convinced by the views expressed in it. The bichloride of mercury was recommended on account of its supposed germicide effect, and he was aware of the fact that it was the most powerful of the agents of this kind yet discovered; but he was very much in doubt whether it was entirely safe to believe that the bichloride actually had a germicide effect on the diphtheritic poison in the system. It was the theory that these antiseptic agents when introduced into the blood would destroy the disease-germs existing and developing there; but he was of the opinion that if they are brought into the blood in such strength as to accomplish this they would have a very destructive effect upon the economy, since these minute organisms were found to be as tenacious of life as the corpuscles of the blood themselves, and the normal cells would be destroyed at the same time.

All who were present at the last meeting, Dr. Smith continued, must have been delighted at the admirable manner in which Dr. Wm. H. Welch described the anatomical characteristics of the exudations met with in membranous laryngitis. Whenever there was pseudo-membrane there was found the exudation from the blood (the fibrin), and, in addition, the altered epithelial cells, as held by Rindfleisch and all the other best authorities. Now fibrin was freely dissolved by alkalies, and in the experiments in which he had taken part at the New York Foundling Asylum, it was demonstrated that a two per cent. solution of liquor potassæ would dissolve it.

The next point to which he alluded was in regard to the epithelial cells, and here there was a difference of opinion as to whether alkalies would dissolve the epithelial element of the pseudo-membranes or not. By some writers this portion of the membrane was considered analogous to *mucine*, and mucine could readily be shown to be dissolved by a weak alkaline solution. On the whole, he believed that he must still adhere to his opinion that the inhalation of medicated steam formed a very important part of the treatment of this disease; and the solvent which he preferred, as he had mentioned at one of the recent meetings of the Section, was a two per cent. solution of liquor potassæ in lime-water containing an excess of lime, which rendered it more turbid than ordinary lime-water.

In regard to the cases reported by Dr. Thallon in his paper, they were not altogether convincing as to the preëminent efficiency of bichloride of mercury. Thus, in one of them, in addition to the internal medication, inhalation of chloride of ammonium was used, and as this agent was an alkali, it seemed probable that it had some effect in producing the favorable result noticed. Again, Dr. Thallon regarded as cases of croup those in which there was simple huskiness, without dyspnœa; but if he (Dr. Smith) were to do the same, he would be apt to report that fully one-half of his cases of croup recovered under the use of inhalations of a two per cent. solution of liquor potassæ with lime-water. If huskiness came on, he believed it was demanded, as a matter of safety, that such inhalations should be resorted to for the purpose of preventing further advance of the disease, for if there was only a slight deposit of membrane, it would probably be dissolved away at once. Muco-pus of a tough and viscid character, and situated lower down in the respiratory tract than the pseudo-membrane, formed, in connection with the membrane above, one of the causes of dyspnœa, and when the mucine present was dissolved by these alkaline inhalations, the pus was rendered thinner and more easily expectorated, which he thought was a very important point as regards the efficacy of the treatment. At the late meeting, of which he had spoken, he had stated that in his opinion nothing should be used as an application, by inhalation or otherwise, which was an irritant. Within the past month, however, he had seen the use of such a caustic as nitrate of silver advocated, and he believed that the Academy, as a scientific body, ought to protest against the employment of any such measure. This was the objection he had against the use of bromine, which had been so highly lauded, particularly by one authority in this city; it was too irritating.

Dr. Smith had been more and more impressed, as his experience extended, with the very great importance of alcohol in the treatment, and whether the disease was due to the presence of a micrococcus or not, its free administration was, as a rule, indicated. It was surprising what large quantities of alcohol were tolerated by the system under the circumstances, and it was no uncommon thing to see a child one year old, taking with advantage, a teaspoonful of brandy or whiskey every hour. He should be glad to make a trial of Dr. Pepper's treatment, as endorsed here to night; but so far as the efficiency of the method was demonstrated by the cases published by Dr. Thallon, he must confess that he was not convinced of its superiority, on account of the character of the cases reported.

DR. JACOBI thought that it was hardly fair to class the calomel treatment with that of the bichloride of mercury, as Dr. Smith had done. It was not a matter of indifference whether we gave a dose of twenty grains of calomel at the beginning of an attack of croup or not. If he gave an adult twenty or thirty grains of this drug, even if it was taken dry on the tongue (in which case less griping would be produced), he always expected such well-marked effects as loose calomel passages. The bichloride was less liable to produce salivation than any other preparation of mercury. It had been stated that if antiseptic agents were given in sufficient strength to destroy bacteria, they would also destroy the cells of the blood. This was indeed true of carbolic acid and all the other ordinary germicides, but it was not true of bichloride of mercury. The body of a child, four or five years old, contained about two and a half pounds of blood; and it had been demonstrated beyond question that one grain of the bichloride was sufficient to destroy all ferment in such a quantity of blood, while it was, at the same time, incapable of destroying the blood-corpuscles.

It had, furthermore, he said, been shown that bichloride of mercury was probably the only germicide which could be introduced into the blood in an unchanged condition. Dr. Welch had stated, at the last meeting of the Academy, that there was as yet no proof that diphtheria was produced by any micrococcus. Since, therefore, the question was still undecided, he would not dwell upon it.

He looked upon the bichloride of mercury simply as an anti-fermentative agent. The practical results of its employment in croup had seemed to him eminently satisfactory, as compared with other agents; and whether a satisfactory explanation of its mode of action could be given at the present time or not, it did not matter; he was willing to wait for that. He would, before closing, again lay stress on the fact that when the bichloride was used, the dose, which should be sufficiently large, should be repeated very frequently, so as to get enough of it into the system as rapidly as possible. In one or two instances he had given as much as a grain in the twenty-four hours, and even a child of five months should receive, at least, half a grain in that period. The dose, however, should not be too large; and since he had known of the effect produced in the case which he had seen with Dr. Forest, he had been more cautious than before, and was also very particular to have the bichloride largely diluted. Given with proper care, there were no bad results whatever from its use.

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, April 7, 1884.

WILLIAM HUNT, M.D., IN THE CHAIR.

DR. WM. G. PORTER related the following

CASE OF BIGELOW'S OPERATION AT TWO SITTINGS.

B. S., white, U. S., single, æt. 17, boilermaker, temperate, admitted to the Presbyterian Hospital on November 12, 1883, had suffered from symptoms of stone in the bladder for about four years previous to admission. General health good, passes urine three or four times a day, and once or twice during night. Urine showed abundance of pus with blood and one-fifth albumen. No trace of urates, phosphates, or tube-casts. On passing a sound, the presence of a stone was readily detected. The patient was exceedingly nervous and sensitive and a great coward, and consequently no attempt was made to ascertain the size of the stone until the patient was prepared for operation. On November 17, he was etherized, and the stone seized with a medium sized lithotrite, showing a long diameter of about two and a half inches and a short diameter of about one inch. The lithotrite was now tightened, and as the stone seemed to crush readily, the operation of Bigelow was decided on. After crushing easily for some time, and considerably diminishing the size of the stone, the ordinary sized lithotrite, which had been used, failed to make any further impression on the stone with any amount of force which it was considered safe to use. The Bigelow evacuator was now introduced, to permit of which the meatus had to be enlarged, and 370 grains of sand and small fragments were evacuated. Some cystitis followed the operation, and nothing more was done until December 3, sixteen days after the first operation, when, being provided with a Bigelow lithotrite, the remainder of the stone was easily broken and 270 grains evacuated, making 640 grains in all.

Considerable œdematous swelling followed the second operation, and in a few days an abscess formed at the junction of the penis with the scrotum, which was evacuated and discharged a large quantity of fetid pus. Urine was discharged through the resulting sinus for a week or ten days, but it gradually closed completely and the patient was discharged. On December 24, a thorough exploration of the bladder failed to detect any evidence of the presence of fragments.

DR. S. W. GROSS suggested that the title of this paper should be changed to "Lithotrity at Two Sittings." It was not a Bigelow operation, which consists in evacuating the bladder at one sitting, no matter whether it requires twenty minutes or three hours.

DR. PORTER said that Dr. Bigelow, in his original description, after stating that the stone should be comminuted, not necessarily pulverized, went on to say that this operation can generally, not always, be performed at one sitting. The other points to which he draws attention in this operation are the use of a larger tube than usual for evacuation, the immediate evacuation of all the fragments, the thorough washing out of the bladder, and the great length of time which may be safely occupied in the performance of this operation, it being continued under ether one or two hours, if necessary. If requisite, the urinary meatus may be enlarged to allow the passage of the large tube. Under these circumstances he thought that the title of the paper was correct, and that it was a Bigelow operation. It was done, it is true, at two sittings. It might as well have been done at one if he had had the proper lithotrite. The small ordinary lithotrite would not crush the stone; he removed the small fragments and washed out the bladder. When the patient had recovered from this operation he used the Bigelow lithotrite, and had no trouble in crushing and removing the fragments.

DR. WM. HUNT said that this was simply a question of fact, and he understood that Dr. Gross would insist upon the immediate evacuation of the bladder as an essential part of Bigelow's operation.

DR. PORTER claimed that Dr. Bigelow did not insist on it. In one of the cases which he described, the operation was completed in two sittings.

DR. WILLARD narrated a case of small stone in a man of twenty-eight, who, when he first saw him, was able to get a No. 26 sound through the urethra, but this caused slight pain. He afterwards gradually dilated the urethra until he could pass a No. 31, but each passage of the sound was followed by fever. The introduction of a lithotrite to measure the stone caused a chill which was followed by fever, the temperature reaching 104° Although he was kept in bed, and quinine and morphia given after each sounding, the temperature has always gone up, sometimes not over 100°. He desired to know whether it would be better to dilate the urethra and crush the stone, or to perform lithotomy.

DR. BRINTON said he would advise lithotomy.

DR. S. W. GROSS concurred.

DR. J. EWING MEARS exhibited a specimen of

CARCINOMA OF THE BLADDER,

which was removed from a man admitted to St. Mary's Hospital March 25, 1884. The man, when admitted, was almost unconscious, and only a very imperfect history could be obtained. He was eighty-two years of age. There was dribbling of urine, a great deal of sensitiveness over the region of the bladder and lower part of the abdomen on palpation and percussion. A catheter was introduced and a large quantity of urine containing a small quantity of blood, pus, and epithelial cells was passed. The case was treated by hot applications over the lower part of the abdomen, the use of a catheter, and a general supporting treatment. The patient gradually sank, and died four days after admission.

At the autopsy, which was made by Dr. R. B. Wetherill, Resident Physician, a fungoid growth was found to spring from the bas fond of the bladder extending to and involving the prostate gland. The growth was symmetrical, occupying the median line of the organ, and about three and a half inches in diameter. It projected about half an inch above the inner surface of the bladder, and was soft to the touch. Before incision of the tumor, the cut surfaces were white and glistening, exuding a white, milky fluid. The deeper portions were more dense. Small, dense, white, circumscribed growths, about the size of a large pea, were found in various parts of the bladder. The bladder was hypertrophied and thickened throughout. At the upper portion there were appearances of incipient gangrene.

Sections were made of the growths, which exhibited under the microscope a fibrous stroma, alveoli filled with epithelial cells; no stroma between the cells.

According to the statement of the patient, the growth was very rapid. The first trouble noticed was twenty-one weeks before admission. The only symptom calling attention to any other condition than that of chronic cystitis was the passage of a small quantity of blood. That did not, however, attract very much attention, as the amount was small. Carcinoma of the bladder of this variety was, he thought, rarely met with.

Dr. Nancrede reported the following case of

TREPHINING FOR BRAIN ABSCESS.

A boy had a punctured fracture of the skull, made with a knife. The blade was removed rather rapidly. The boy had convulsions afterwards. He took out a disk of bone and passed a probe into the substance of the brain, looking for pus or serum, which he expected to find, but could detect nothing. Erysipelas set in, but did not affect the wound. He next had a subnormal temperature, a little nausea, headache, and an occasionally slow pulse.

On the 22d he was reported dying. The right side was paralyzed, the lower extremity more than the upper. When Dr. Nancrede took hold of the flap, he made a slight motion of the left side. He found the dura mater on a level with the opening, and pulsating freely. He incised the dura mater, but not a particle of pus escaped. He passed the aspirator-needle in four directions into the brain substance for a distance of two-thirds of an inch, but no pus was found. He applied a large trephine below in front of the wound. When he had gotten into the diplöe, the respirations had stopped, then the pulse at the wrist stopped, and the assistants thought that the heart had stopped. He completed the trephining as rapidly as possible. He opened the dura mater, but not a particle of pus was found. Fortunately, in making pressure, a little pus was seen to ooze through one of the needle punctures, and making an opening into the brain substance at this point, over an ounce of pus escaped. Artificial respiration was then resorted to, but it required considerable time to bring him into a condition where he could be left. He then breathed naturally, regained consciousness, and the paralysis diminished. He lived six and a half days after this, and finally died of sheer exhaustion from a second attack of erysipelas.

Dr. Nancrede said he had not been able to go over the subject very thoroughly, but he was not aware of another instance in which trephining was resorted to after the patient had ceased to respire. The patient was not under the influence of ether.

NEW INVENTIONS.

A CHEAP AND PRACTICAL METHOD OF ELECTRIC ILLUMINATION FOR LARYNGOSCOPY, ETC.

By SOLOMON SOLIS-COHEN, A.M., M.D.,

FELLOW OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, ETC.

After considerable experimentation, and trial of several of the more or less elaborate forms of "electric laryngoscopes" devised by Helot, Trouvé, and others, I have found a return to "first principles" to furnish at once the cheapest, most convenient, and most satisfactory method of electric illumination that has thus far come to my notice.

We need simply substitute a small incandescent lamp for the gas or coal-oil flame in the Tobold or other illuminating apparatus. These lamps can be purchased for $1.50 at any of the electric-supply shops, and can easily be mounted in place, with a current-switch attachment, by any competent workman.

The battery I have used is Flemming's "Universal Battery"—the same employed for galvano-cautery—the constant current from ten cells being sufficient to produce a soft, white light of greater intensity than the coal-oil or gas flame, and inferior only to sunlight.

For ordinary office use, I prefer the Tobold lantern, with adjustable reflector.

For direct illumination, a bull's-eye lens is required, such as is used by Helot and Trouvé; and this can also be utilized for reflection at a distance by those who prefer a reflector worn on the head to that of the Tobold system.

For office use, however, in connection with a head-band reflector, the incandescent lamp with the bull's-eye lantern known as the "Mackenzie Condenser," is superior in illuminating power to Trouvé's instrument ("Photophore"). Mounted on the Mackenzie bracket, with either the Tobold or Mackenzie lantern, this illuminator leaves little to be desired; for should the loop of the lamp burn off, or the battery give out,[1] we can turn on the gas.

CORRESPONDENCE.

THE DANGER OF GLASS VAGINAL SPECULA.

To the Editor of The Medical News.

Sir: I was summoned yesterday to see—at once—a young married lady, who was suffering, I was told, from leucorrhœa (a flow of whites from the vagina), which does exist as such, but is denied by my friend, Dr. Addis Emmet, who does not describe it in his admirable book because the flow of whites, he says, always comes from the endometrium, and is the consequence of catarrhal inflammation of the mucous membrane of the uterine or cervical cavity and canal. I would refer Dr. Emmet and those gentlemen denying the existence of leucorrhœa in women to the description of the vaginal and vulval mucosa in Charles Heitzmann's *Microscopical Morphology of the Animal Body in Health and Disease*, p. 838, where this author says: "The *mucosa* of the vagina is raised in folds (rugæ), and in this situation papillæ are present. . . . The papillæ are simple throughout the *mucosa*, but compound at the height of the rugæ and toward the vestibulum. . . . In the *mucosa* varying numbers of lymph-corpuscles are found, arranged, sometimes, in circumscribed follicular formations. The covering epithelium is stratified, blending with that of the cervical portion of the uterus. . . .

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[1] The same remark applies when the galvano-cautery battery is used for the illuminator, and we desire to change the current and employ it for another purpose. Since the above was in type, I have found that it is only with fresh battery fluid that we can get the best results. With old fluid, the light is no better than gas, if not inferior to it.

Blood- and lymph-vessels produce plexuses above the epithelial cover and below the muscle-layers, which hold a large number of veins. In the vestibulum, the *mucosa* contains small, acinous, mucous glands, which are more numerous around the opening of the urethra and on the clitoris. The Bartholinian glands are also large mucous glands. The hymen is a reduplication of the vaginal mucosa, very rich in bloodvessels and nerves. The labia majora are rich in smooth muscles and fat. The clitoris is covered by a *mucosa*. . . . The labia minora are characterized by the presence of numerous sebaceous glands."

It must be evident from the description quoted that in inflammation of the vulva or the vagina, or of both, we have an increased flow of whites, which in Greek is termed *Leucorrhœa*. Why should so-called catarrhal inflammation not occur here as well as in other organs of the body where there is an epithelium or a *mucosa?* Without saying any more regarding the existence of the symptom, leucorrhœa—a symptom like that of diarrhœa occurring in inflammation of the intestinal tract—I wish to call attention to the danger of using glass tubes by women suffering from leucorrhœa, like the patient whom, as I stated above, I was called upon to see, on account of a piece of broken glass lodging in her vagina, which caused bleeding and immense mental anxiety.

The lady was advised by her physician to use salt-water injections into her vagina, to cure her leucorrhœa, and, while inserting the glass tube into her vagina, it broke, and caused the bleeding and the great distress, to relieve which I was summoned in great haste. I found the patient—aged about twenty-three—ghastly pale, with both thighs widely separated, holding on cautiously with her hands to the bedpost. She dared not move, fearing that the glass piece in her vagina might cut her womb off, as she said, especially as she noticed, to her sorrow, blood streaming down her legs. She had ceased to menstruate a week before the accident. I introduced the index finger of my right hand cautiously into her vagina, and, reaching up to the fornix, behind the uterus, I discovered the *corpus delicti*, which I removed, guarded by my fingers. I syringed the vagina of all blood-clots, stopped the hemorrhage, and left the lady—an actress—very comfortable; and I learned next morning that she played her part that evening at the New York Casino, where she is professionally engaged.

I report this case—probably not a rare one—for the purpose of advising physicians to discountenance the use of glass tubes for vaginal douching, and to recommend hard-rubber tubes instead.

I am, yours, very respectfully and truly,
RUDOLF TAUSZKY, M.D.

171 E. SEVENTIETH STREET, NEW YORK.
July 10, 1884.

NEWS ITEMS.

CHOLERA PRECAUTIONS. INSTRUCTIONS TO UNITED STATES CONSULAR OFFICERS.—Secretary Frelinghuysen on Monday instructed, by cable, the consular officers at London, Liverpool, Marseilles, Havre, Bordeaux, Bremen, and Hamburg at once to appoint competent physicians to inspect all vessels and passengers departing for the United States from those ports. The consular officers are instructed to refuse clean bills of health in all cases except upon the recommendation of the sanitary inspector that such bills be given. The consuls are instructed to report by cable any case of infectious or contagious disease known to exist on board of a vessel at the time of her departure for the United States. This course is adopted in order that the health officers in United States ports may have timely warning of approaching danger, and be prepared to take such measures as shall prevent the scourge from gaining a foothold in this country.

The American Consul at London announces that vessels from Europe must have certified clean bills of health from the American consul at the port from which they sail, or they will not be allowed to enter American ports.

It is probable that under the authority conferred by the contagious disease clause of the Legislative, Executive, and Judicial Appropriation Bill, medical examiners will be appointed as attachés to the American consulates at the French ports infected with cholera, whose duty it will be to report periodically upon the progress of that disease.

PRECAUTIONS IN ILLINOIS.—The Illinois State Board of Health, with commendable promptness and celerity, has sent the following circular to the Mayors and Presidents of Village Boards of eight hundred and forty-four cities, villages, and towns of the State:

"At the recent meeting of the State Board of Health, held in Springfield, July 2 and 3, 1884, the following resolution was adopted:

"*Resolved*, That, while epidemic cholera may be excluded from this country by thoroughly enforced quarantine regulations, yet the best attainable sanitary condition of every locality in the State should be secured, so that in the event of Asiatic cholera effecting an entrance, notwithstanding quarantine, the disease may be met and fought under the most favorable circumstances; and the Secretary is, therefore, hereby authorized to take such action as in his judgment will most promptly obtain a thorough sanitary organization of the State, and the adoption and enforcement of the measures necessary to improve its general sanitary condition.

"It is entirely possible that we may escape a visitation of Asiatic cholera this year, although there is yet plenty of time for the disease to reach our shores before cold weather. But even if there were no danger from this source, it should be remembered that everything which is done in the direction of sanitary improvement benefits the general health, reduces the amount of sickness, and lessens the death-rate. An obvious duty, therefore, rests at all times, but more urgently at present, upon those charged with the administration of public-health affairs to take such steps as may be necessary to remedy any defects in the existing sanitary status.

"To this end a general inspection of the entire territory under your jurisdiction should be made forthwith; and all nuisances, or other conditions injurious to the public health, which may be disclosed by such inspection, should be promptly abated. Especial attention should be paid to—

"*First.* The condition of the water-supply.

"*Second.* The disposition of night-soil, garbage, and sewage.

"*Third.* The cleansing of streets, alleys, and other public places.

"*Fourth.* The supervision of food-supplies, and of market-places, slaughter-houses, and similar establishments.

"*Fifth.* The general sanitation of every house and its surroundings.

"1. Water is one of the commonest mediums through which cholera spreads; but, aside from this, typhoid and malarial fevers, diarrhœa, dysentery, and other diseases, are caused by impure and polluted water. Hence the necessity of protecting the supply from contamination by surface-washings and drainage of filthy soil or premises, or of wastes from manufacturing establishments, or by leakage through the ground from privy-vaults, cesspools, etc.

"2. Night-soil, garbage, sewage, and all other forms of decomposing organic matter, are highly prejudicial to health, and their foul odors are indications of danger. The various methods for their proper disposal, so as to render them harmless, are well understood, and should be enforced according to the varying conditions of each locality.

"3. Clean streets and alleys, and gutters properly drained and kept free from unsightly and filthy accumulations, are of even greater importance during the heat of summer than at other times. The healthy condition of the atmosphere of a locality largely depends upon the condition of its thoroughfares.

"4. The rapid decomposition of most articles of food during hot weather—the tainting, souring, wilting, or rotting processes—and the derangements of the stomach and bowels caused by the use of such food, indicate the necessity for special supervision at this time of all food-supplies, and of the places where they are prepared, stored, or disposed of.

"5. The foundation of healthy living is, obviously, the individual home and its surroundings. Houses, cellars, yards, and outbuildings should be carefully inspected, and all accumulations of garbage, refuse, and filth of every description should be removed, or, where this is not practicable, they should be rendered harmless by appropriate treatment. No house or premises can be healthy without proper drainage. If this is not secured by sewers or underground drains, then recourse should be had to surface drains, so as to prevent the possibility of stagnant water under the dwelling or in its vicinity. Cellars should be dry, clean, and well ventilated, so that they may not generate foul air to be drawn up through the house.

"It is desired that this work of inspection, and remedying of evils and defects, be begun at the earliest practicable moment, and a preliminary report be made to this office, covering, in a general way, the existing sanitary condition, and the measures adopted and enforced for its improvement."

QUARANTINE IN LOUISIANA.—The Louisiana State Board of Health has adopted the following:

Whereas, Cholera is known to exist in Toulon and Marseilles in epidemic form, be it

Resolved, That the President of the Board instruct the quarantine officers at all the quarantine stations in the State to detain all vessels coming from those ports, or any other ports where cholera may exist, until further orders from the Board.

FOREIGN PRECAUTIONS.—The Cuban authorities have ordered that all vessels arriving from French Mediterranean ports, or from any port at which cholera prevails, shall be detained seven days for observation if they bring a clean bill of health, or ten days if they bring an unclean bill. If they had or have cholera on board they will be subjected to a rigorous quarantine at the station of Mariel or Santiago de Cuba. The order also applies to all vessels from Asia or Africa.

The Spanish Government has ordered a quarantine against vessels arriving from German ports because the precautions taken by Germany against the spread of the cholera are not deemed sufficient.

Italy is now inaccessible except *via* Austria. English passengers by the Indian mail can no longer get through by way of St. Gothard, as hitherto. Quarantine was established July 11th, at Chiese. The only way of getting to Italy now is *via* Vienna.

The Austrian Government has asked the Porte to coöperate with it in the adoption of measures to prevent the introduction of cholera into Turkey and Austria.

A quarantine of two weeks has been established at Odessa against vessels arriving from French Mediterranean ports, or other ports at which cholera is known to prevail.

During the cholera epidemic vessels from infected ports are forbidden to land passengers or cargo at any port in Portugal.

The Colombian authorities have ordered the enforcement of quarantine regulations in respect to vessels arriving at Panama from Europe.

DR. KOCH ON THE CHOLERA EPIDEMIC.—The *N. Y. Herald* of last Saturday contains a special cablegram, giving the report of an interview, at Toulon, with Dr. Koch, published in the *Gaulois* of the preceding day. Dr. Koch is represented to have said that "all the post-mortems made confirm the results of my first investigation, which put the Asiatic character of the scourge beyond question. I have found the same phenomena, as in the cases which I investigated in India. The microbes were identical. I found numbers in the body of that soldier, Besnard, whose post-mortem I made on Sunday evening. Indeed, I found more than I had seen in Egypt. Messrs. Strauss and Roux, who were standing by, also recognized the presence of the Indian microbe in Egypt, but had always seen it mixed with others: whereas in post-mortems that I have made here the Indian microbes outnumbered the others immensely."

"The microbe is rarely met with in the stomach. Gastric disorders are not favorable to it, so it takes refuge in the small intestines, where it can easily multiply. The microbe in the intestines causes diarrhœa and vomiting, leading to thickening and chilling of the blood, then it secretes an intoxicating poison, which causes the dry, instantaneous cholera—*foudroyant sec*—that is, cholera without diarrhœa.

"Contamination is not caused by air, but by absorption of microbes infecting food, especially water and solid food introduced into the digestive tubes. Hence

I advised the members of the Sanitary Committee to shut up the wells and counsel the people to drink boiled water, or water from non-infected places, or light mineral waters. It also explains the necessity of taking only well-cooked food, peeled fruits, vegetables and preserves. Remember, microbes die if exposed to a high and especially to a dry temperature.

"I hold that microbes are transmissible only by excrement or objects soiled by excrement. Consequently the first precaution to take is to subject the linen of cholera patients to heat, hot air, and phenic acid more or less concentrated. Microbes cannot live in concentrated solutions of phenic acid or in a dry atmosphere. They develop and multiply in the damp. They have been found in ponds in cholera countries. No soiled object is the least dangerous when once it is dry, for the microbe has become powerless to reproduce itself; indeed, it is dead.

"The theory of the destruction of the microbe by dryness leads me to advise the closing up and drying of contaminated apartments for several days, and to pronounce the disinfecting of luggage, letters, and travellers ineffectual.

"The practice of watering streets and boulevards is dangerous. It favors the conditions needed for the reproduction and propagation of microbes. It would be preferable to leave the streets dry and dusty.

"I think I may say that, considering the precautions taken by the naval authorities, cholera was imported on some merchant ship, probably English. They do not scruple on English vessels to hide deaths which occur on voyages or to falsify logs.

"I disapprove of crowds altogether. All public fêtes and fairs should be forbidden."

YELLOW FEVER has appeared in Guaymas, Mexico, to such an extent as to be no longer denied, and several cases are reported at Mazatlan, and the inhabitants are fleeing to the mountains.

Deaths from this disease in Havana during the month of June numbered sixty-eight, thirty in the Military Hospital, and the remainder among the civilians.

THE PLAGUE has made its appearance at Pskov, Russia, and is represented to be entirely beyond control,

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OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 8 TO JULY 14, 1884.

CLEMENTS, B. A., *Major and Surgeon.*—Also directed to relieve Surgeon J. P. Wright of his duties as Acting Medical Director, Department of the Missouri.—*Par. 1, S. O. 138, Headquarters Department of the Missouri,* July 8, 1884.

PROMOTIONS.

To be Assistant Surgeons with the rank of Captain, after five years' service, in accordance with the Act of Congress of June 23, 1874:

Assistant Surgeon JOHN J. KANE, June 3, 1884.
Assistant Surgeon JOHN M. BANISTER, June 3, 1884.
Assistant Surgeon AARON H. APPEL, June 3, 1884.
Assistant Surgeon CHARLES RICHARD, June 3, 1884.
Assistant Surgeon W. FITZHUGH CARTER, June 3, 1884.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FROM APRIL 1 TO JUNE 30, 1884.

BAILHACHE, P. H., *Surgeon.*—Detailed as Chairman of Board to examine candidates for appointment into the Revenue Marine Service, May 17, 1884.

VANSANT, JOHN, *Surgeon.*—To proceed to Empire City, Oregon, as inspector, April 2, 1884.

HUTTON, W. H. H., *Surgeon.*—Granted leave of absence for twenty-five days, May 14, and June 9, 1884.

MILLER, T. W., *Surgeon.*—Granted leave of absence to attend the meeting of the American Medical Association, May 1, 1884. To proceed to Pittsburg, Pa., Ashtabula, Ohio, Buffalo, N. Y., and Detroit, Mich., as inspector, May 10, 1884.

WYMAN, WALTER, *Surgeon.*—To proceed to Crisfield, Md., as Inspector, April 11, 1884. Detailed to represent the Marine-Hospital Service as delegate to the American Medical Association, April 17, 1884. Detailed as President of Board for physical examination of candidates for appointment as cadets in the Revenue Marine Service, May 20, 1884. To examine cadet-graduates, Revenue Marine Service, as to physical qualifications, May 31, 1884. Detailed as member of Commission to inspect United States buildings at quarantine station on the Delaware River, June 16, 1884.

AUSTIN, H. W., *Surgeon.*—Granted leave of absence to attend the meeting of the American Medical Association, May 2, 1884.

GASSAWAY, J. M., *Surgeon.*—When relieved by P. A. Surgeon Mead, to proceed to Portland, Maine, and assume charge of the Service, April 16, 1884. Granted leave of absence for thirty days, May 28, 1884.

STONER, G. W., *Passed Assistant Surgeon.*—When relieved by Surgeon Gassaway, to proceed to Cairo, Illinois, and assume charge of the Service, April 16, 1884. When relieved by Surgeon Gassaway to report in person to the Surgeon-General, June 20, 1884.

IRWIN, FAIRFAX, *Passed Assistant Surgeon.*—Granted leave of absence for twenty-one days, June 19, 1884.

MEAD, F. W., *Passed Assistant Surgeon.*—When relieved by Assistant Surgeon Devan, to proceed to Philadelphia, Pa., and assume charge of the Service, April 16, 1884. Detailed as Recorder of Board for physical examination of candidates for appointment as cadets in the Revenue Marine Service, May 20, 1884.

CARTER, H. R., *Passed Assistant Surgeon.*—To inspect unserviceable property at the San Francisco Hospital, May 24, 1884.

WHEELER, W. A., *Passed Assistant Surgeon.*—To inspect unserviceable property at the Chicago Hospital, May 24, 1884.

BENSON, J. A., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, April 14, 1884. When relieved by P. A. Surgeon Stoner, to report to him for temporary duty, May 19, 1884.

BANKS, C. E., *Passed Assistant Surgeon.*—Detailed as member of Board to examine physically candidates for appointment into the Revenue Marine Service, May 17, 1884. To inspect unserviceable property at Baltimore, Md., New York, N. Y., and Boston, Mass., May 26 and June 2, 1884.

BENNETT, P. H., *Assistant Surgeon.*—Granted leave of absence for twenty days, June 28, 1884.

DEVAN, S. C., *Assistant Surgeon.*—To proceed to Port Townsend, W. T., relieve P. A. Surgeon Mead, and assume charge of the Service, April 14, 1884.

URQUHART, F. M., *Assistant Surgeon.*—Granted leave of absence for thirty days, May 22, 1884.

YEMANS, H. W., *Assistant Surgeon.*—To report to Captain M. A. Healey for duty as medical officer during cruise of Revenue Cutter "Corwin," April 16, 1884.

GLENNAN, A. H., *Assistant Surgeon.*—To proceed to Mobile, Ala., for temporary duty during sickness of P. A. Surgeon Goldsborough, June 17, 1884.

APPOINTMENT.

BROOKS, STEPHEN D., M.D., of Massachusetts, having passed the examination required by the Regulations, was appointed an Assistant Surgeon by the Secretary of the Treasury, May 15, 1884. (Dr. Brooks had previously served as an Acting Assistant Surgeon from March, 1883 to May, 1884.)

THE MEDICAL NEWS.

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ORIGINAL LECTURES.

A COURSE OF LECTURES ON DERMATOLOGY.

Delivered at the University of Pennsylvania during the Session of 1883–1884.

BY LOUIS A. DUHRING, M.D.,
PROFESSOR OF DERMATOLOGY IN THE UNIVERSITY.

(Reported by Henry Wile, M.D.)

LECTURE V.

LENTIGO; CHLOASMA; NÆVUS PIGMENTOSUS; MOLLUSCUM EPITHELIALE; CALLOSITAS; CLAVUS; CORNU CUTANEUM; VERRUCA; ICHTHYOSIS; HYPERTROPHY OF THE HAIR; SCLERODERMA; MORPHŒA; SCLEREMA NEONATORUM; ELEPHANTIASIS ARABUM; DERMATOLYSIS.

HYPERTROPHY OF THE SKIN consists of an increase in its elements, and there may be hypertrophy of pigment, as in chloasma; hypertrophy of epidermis, as in ichthyosis; hypertrophy of connective tissue, as in elephantiasis. It is characterized, as a rule, by the absence of inflammation, and rarely occasions serious inconvenience. The course is, as a rule, slow, the affection generally lasting a lifetime.

LENTIGO, or freckle, is a common form of pigment deposit, characterized by irregularly shaped, pin-head or pea-sized, yellowish or brownish spots, found usually on the face and backs of the hands. They are often induced by the rays of the sun, and may be present in such numbers as to disfigure the individual. Besides the face and hands, they may occur on other parts of the body, and are liable to persist for an indefinite time. They occur, for the most part, on blondes. Occasional black freckles are also now and then met with. As regards treatment, the most satisfactory consists of local measures, and among the remedies corrosive sublimate is the best, used in the form of a lotion, one to three grains to the ounce of water or emulsion of almonds. The application should be made morning and evening, and kept up until a certain amount of desquamation takes place.

CHLOASMA is characterized by variously sized and shaped, smooth, yellowish or brownish discolorations, occurring usually about the face. The affection is divided into varieties according to the cause, as idiopathic or symptomatic. Under the first are included those forms produced by the rays of the sun, sinapisms, long-continued scratching, as in pediculosis, etc. Under the second belong those forms occurring in the course of certain internal diseases, as chloasma uterinum, which may occur in the married or single, and is influenced by certain conditions of the uterus. It appears, as a rule, upon the forehead or cheeks in the form of dirty-looking, yellowish or brownish patches, which are often extremely disfiguring. It is rarely so marked in single women as in those that are married and have been pregnant. The same form of chloasma is sometimes observed in men. The causes are numerous, and traceable in many instances to the nervous system. This observation is being more and more corroborated every year. The disease is not uncommon among the insane and those who have suffered from nervous shock. In some cases, instead of being localized, the discoloration is diffused uniformly or in patches over the whole integument. The pathology of the affection consists of an abnormal deposit of pigment in the mucous layer of the epidermis. As to the diagnosis, it may be confounded with tinea versicolor; but the former is smooth, and presents no scaling, while the latter is scaly, and usually extends itself over large areas.

Under chloasma is also classified the pigmentation of the skin occurring in *Addison's disease;* also the condition following the continued exhibition of nitrate of silver, known as *argyria.* Somewhat analogous to the foregoing is that resulting from the practice of *tattooing*, in which certain pigments, as vermilion and charcoal, are introduced into the skin. The most valuable remedy in the treatment of the various forms of pigmentation is corrosive sublimate, one to five grains to the ounce of alcohol or water, dabbed on the part two or three times a day, until a certain amount of desquamation is produced. After the pigment is thus removed it is liable to return, but it does not always do so. Vleminckx's solution, diluted one part to three or six, also sometimes acts happily.

NÆVUS PIGMENTOSUS consists of a circumscribed deposit of pigment of varying size and shape. It may be single or multiple, congenital or acquired. It is oval or irregular in shape, and may occur on any part of the body. When smooth and soft, it constitutes the *nævus spilus;* when rough and warty, *nævus verrucosus;* when accompanied by thickness and growth of fatty tissue, *nævus lipomatodes;* when covered with growth of hair, *nævus pilosus.* The treatment consists in extirpation or the application of caustics; the former is preferable. Caustic potash or nitric acid is here to be used with caution.

MOLLUSCUM EPITHELIALE has been carefully studied as to its pathology, and found to be an epithelial formation. Various names have been proposed, but the best is that given by Virchow many years ago, and adopted here. It is a rare affection in this country, but commoner in Great Britain. It is characterized by rounded, semi-globular, pin-head to pea-sized, whitish or pinkish papules or tubercles. They have a distended, often waxy look; are slightly flattened, and at the summit is a dark point constituting the opening of the follicle. The affection occurs, for the most part, among poorly, ill-nourished children, more rarely in adults. Some authorities contend that it is contagious, but Dr. Duhring has never seen any positive evidence offered in favor of such a view. It may, however, come in form of epidemics. Regarding its pathology, authorities are divided into two factions: one regarding the disease as originating in the sebaceous gland; the other viewing it as a disease of the rete. Dr. Duhring believes in both theories, namely, that it is a disease of the rete, taking its origin, however, in the hair-follicles, becoming a hyperplasia of the epithelial lining and also of the sebaceous gland. Microscopically, it is found to consist of epithelial cells, with nuclei, and peculiar round or oval bodies called "molluscous bodies," and believed to be altered, fatty, degenerated epithelial cells. The disease may last two or three months, the lesions drying up or coming away as a slough. It is to be distinguished from molluscum fibrosum. The treatment consists of excision with the knife and subsequent application of a caustic, as nitrate of silver. Frequently, if left to themselves, they disappear spontaneously. Appearing on the face, however, they call for surgical interference.

CALLOSITAS is due to a hyperplasia of the epidermis, affecting the hands or feet. It is caused upon the hands by the continuous use of tools; it occurs, however, sometimes without such evident cause.

CLAVUS, or corn, is a circumscribed hyperplasia of the epidermis caused by continued pressure. There are two kinds, hard and soft, occurring, as a rule, upon the sides of the feet, especially on the toes. On section, it is seen to consist of an inverted cone, the point growing into and pressing down upon the corium, thereby often giving rise to pain. The treatment may consist in soaking the foot in hot water, or poulticing the corn for three or four nights, until the epidermis becomes softened and can easily be scraped away with the curette. Then, one drop of a solution of caustic potash, twenty to forty grains to the ounce, is cautiously applied, and the corn is destroyed. Salicylic acid, one scruple to two drachms of alcohol or water, is also a valuable application; it forms the basis of many corn cures. Another mode of treatment is that with plasters of sapo viridis, applied every night, say for a week, when often the greater part of the corn can be scraped out.

CORNU CUTANEUM is occasionally met with, and differs in nowise from the horn of lower animals. Cutaneous horns may be single or multiple, are found usually in elderly individuals, and sometimes attain the length of several inches. They occur, as a rule, on the backs of the hands, occasionally on the face, scalp, and sulcus of the penis. It is a pure epithelial formation springing from the rete. The treatment consists of removal and destruction of the base with some cauterizing agent, as chloride of zinc or caustic potash.

VERRUCA, or wart, either hard or soft, consists of variously sized and shaped papillary formations. *Verruca vulgaris*, or common wart, occurs about the hands, especially on the fingers. *Verruca plana*, or flat wart, is found on the back and about the shoulders. *Verruca filiformis*, consisting of a thin, thread-like formation, is encountered on the eyelids and neck. *Verruca digitata*, a broad excrescence with finger-like processes springing from the borders, is found upon the scalp. *Verruca acuminata*, also called cauliflower excrescence and venereal wart, is a pinkish, violaceous, or bright-red fleshy vegetation occurring usually about the genitalia of either sex, and often accompanies venereal disease, being caused by purulent secretion or excessive heat and moisture. It may also occur independent of any venereal disease. It takes on various forms, and, as a rule, appears like the head of a cauliflower or a cock's comb. It consists of a proliferation of the epidermis, the development being rapid; the papillæ of the corium and the corium itself are also greatly hypertrophied, and the bloodvessels dilated, rendering the growth exceedingly vascular.

The most satisfactory treatment of these growths is that by excision with the knife or scissors, and the cauterization of their bases by means of the nitrate of silver stick. They may also be removed with the galvano-caustic ligature, or treated with chromic or nitric acid or acid nitrate of mercury. In the treatment of venereal warts, astringent lotions and Labarraque's solution, together with some dusting powder, as of calomel, are highly useful.

ICHTHYOSIS, or fish-skin disease, is met with not infrequently, and is characterized by a dryness, harshness or scaliness of the skin, and sometimes papillary growth. There are two varieties, *ichthyosis simplex* and *ichthyosis hystrix*. The former consists of a dryness or harshness accompanied by a variable amount of exfoliation, usually most pronounced upon the extensor surfaces, particularly about the knee and elbow joints. The latter is characterized by more or less pigmented, greatly hypertrophied papillæ. It is a congenital disease, and generally appears shortly after birth, first showing itself as a roughness of the skin, increasing from year to year, finally becoming scaly. Pathologically, it is a hypertrophy of the epidermis, and is one of the few incurable diseases of the skin. Much, however, can be done to alleviate the symptoms. The treatment consists of alkaline baths and soaps, and the use of glycerine and simple ointments.

HYPERTROPHY OF THE HAIR, as a general term, includes all variations as to size, number, thickness and length. The hair of the scalp may grow to an unusual length, and Dr. Duhring has seen a case in which it swept the floor. That of the beard may also attain great length, and there are cases on record in which it had reached the length of six feet. Hair may also grow upon regions where it is abnormal, as upon the face of a woman, whence the name "bearded women," who may at times be seen on exhibition. Then there are the "homines pilosi," or hairy people, on whom the excessive development of hair is both congenital and hereditary. There are also hairy races, as, for example, the Aïnos, inhabiting an island north of Japan. Hairs are often seen upon verrucous formations, giving rise to *nævus pilosus*, being generally long and stiff. They are sometimes abnormal as to direction of growth, especially on the eyelids, giving rise to *trichiasis*. Another condition is known as *plica polonica*, where through neglect and filth the hair becomes entangled and matted together to such an extent that it cannot be combed. It was formerly common in Poland, but is rare in this country. *Hirsuties gestationis* consists of an abnormal growth of hair during pregnancy, after delivery the hairs usually falling out.

The treatment of superfluous hair is usually confined to moles and where the growth is upon the face of women. The only successful treatment is that by electrolysis, which consists of the introduction of a fine needle into the hair-follicle, the needle being connected with the negative pole of a galvanic current of from eight to sixteen cells, while the positive pole is held in the hand of the patient. When the needle is introduced and the current is allowed to pass, a certain amount of frothing is produced, the papilla of the hair is destroyed, and the hair can easily be extracted. If the operation is properly and skilfully performed, the hair will not return. Success depends upon the practice, and the percentage of destroyed hairs is largely in proportion to the skill of the operator.

SCLERODERMA is an acute or chronic disease, characterized by a diffuse, more or less pigmented, rigid, stiffened or hardened, hide-bound condition of the skin. When typical, the skin is stiff, tight or immovable, and firm or hard to the touch. It may have a leathery feel, or may be hard like wood. There is, as a rule, yellowish or brownish pigmentation, occurring in irregular patches, producing a mottled condition, sometimes, also, neuralgia, pain or tingling, and generally a feeling of contraction. When attacking the face, the latter becomes expressionless, the features becoming immobile, and in an elderly person the wrinkles disappear, giving the individual a younger look. It usually attacks large surfaces, and may be attended with danger to life by preventing deglutition or respiration. It is usually general and symmetrical. The invasion is sudden or gradual, usually the latter, and it may run an acute or chronic course. The general health continues good, and the course of the disease is variable, lasting months or years, sometimes undergoing spontaneous involution. The causes are obscure. It is a very rare disease, occurring generally in early life or middle age, and is more common in women than in men.

The microscopic examination of the tissue throws little light upon the true nature of the disease, exhibiting a condensation of the connective tissue of the corium, with a deposit of pigment in the rete. It is generally regarded as a tropho-neurosis, being originally a hypertrophy leading later to atrophy. It is closely allied to morphœa, sometimes being associated with this disease. The former, however, as a rule, attacks large areas and is diffuse, while the latter appears in small patches and is circumscribed. The treatment consists in the internal administration of arsenic and quinine, and the use of stimulating ointments, baths, especially inunctions of oil, and the constant electric current.

MORPHŒA, also formerly called keloid of Addison; occurs in the form of patches, rounded, ovoid, or irregular in outline; small or large, soft or firm, tough or leathery, smooth or shining. In color they are pale yellowish or brownish, and often have a distinctly lardaceous look, like a piece of raw bacon set in the skin. In the early stage minute plexuses of bloodvessels may be seen around the patches, also more or less pigmentation in the form of a distinct halo. The lesions are, as a rule, asymmetrical, may attack any part of the body, more particularly certain regions, as the face, neck, chest, back and thighs. Becoming fully developed, they may remain stationary for months or years, or they may rapidly disappear, leaving the skin normal or atrophic. The course is generally chronic. The disease may also manifest itself in the form of atrophic, pit-like depressions in the skin, lines, streaks, or telangiectases. The causes are unknown. It occurs more often in women than in men, and is thought to be largely due to the influence of the nervous system. The pathological changes consist of a condensation of the connective tissue of the corium and a shrinkage of the papillary layer. The treatment should be stimulating and tonic. Arsenic is the best remedy, and is of value. It should be continued for six months or a year. The galvanic current should also be tried.

HEMIATROPHIA FACIALIS, or unilateral atrophy of the face, is a form of morphœa, and consists of a variable degree of atrophy affecting part or whole of half of the face. The process involves the skin, subcutaneous connective tissue, and deeper structures, sometimes even the bone. It has been observed in connection with patches of morphœa.

SCLEREMA NEONATORUM is a disease of infancy, appearing usually at birth, consisting of a diffused stiffness and hardness of the cutaneous and subcutaneous tissues, accompanied by coldness, œdema, swelling, discoloration, lividity, and general circulatory disturbance. The disease is very rare, and is usually congenital. The skin assumes a glossy, reddish, or purplish, yellowish or brownish hue, and is firm or hard, rigid and tight. The surface is cold, and there is more or less œdema and infiltration. Rarely, spontaneous recovery sets in; the disease is, however, generally fatal. The cause is unknown. Microscopic examination of the skin shows the subcutaneous connective tissue to contain a "stearine-like deposit." The treatment should consist of stimulating measures, such as gentle friction, application of warmth, and oily inunctions.

ELEPHANTIASIS ARABUM is a chronic, hypertrophic disease of the skin and subcutaneous connective tissue characterized by enlargement and deformity of the part affected, accompanied by lymphangitis, swelling, œdema, thickening, induration, pigmentation, and papillary growth. It usually begins with erysipelatous inflammation accompanied by general febrile symptoms, the process being followed by slight permanent enlargement. The attacks recur, each time the enlargement becoming more marked, and later being followed by pigmentation and hypertrophy of the tissues. The legs and genitalia are the regions generally affected. The disease is found everywhere, but is most common in the tropics, about the line of the equator, especially in eastern countries. It is due to obstruction and inflammation of the lymphatics. Filariæ have been found in the blood of persons affected, and the parasite is thought by some to be the cause of the disease. Cases of enlargement of the scrotum, called "lymph scrotum," are also allied to the disease in question, and the chylous exudation of the former also contains filariæ.

The tissues on section are firm and of a whitish or yellowish color. The lesion consists of a hypertrophy of the connective tissue, chiefly of the subcutaneous connective tissue, stout fibres running in various directions, forming a dense network. The epidermis is often greatly developed, forming warty, papillary growths, while the bloodvessels and lymphatics of the corium are much enlarged. Where the process has continued for some time there are fatty degeneration and atrophy of the muscles, also enlargement of the bone. In well-marked cases, in which the disease has existed for a time, there is no difficulty about the diagnosis, and in the early stage repeated attacks of erysipelas about the limbs may indicate the nature of the process.

As for treatment, during an attack of erysipelas, rest, quinine, and iodide of potassium are indicated. After the inflammation has subsided, the rubber bandage should be closely applied. Where the scrotum is greatly involved, amputation is a comparatively safe method of treatment, much practised in China.

DERMATOLYSIS consists of a more or less circumscribed hypertrophy of the cutaneous and subcutaneous structures, characterized by softness, looseness of the skin, and a tendency to hang in folds. The skin and all its component parts are hypertrophied, including hairs, follicles, glands, and deeper structures. More or less pigmentation also exists. The disease usually attacks the back, face, and arms, also, rarely, the abdomen, genitalia, and thighs. The process is allied to molluscum fibrosum, the tissues being of a soft, fibrous, lipomatous character. The only treatment is with the knife.

ORIGINAL ARTICLES.

REFLEX AURAL PHENOMENA FROM NASOPHARYNGEAL CATARRH; OBJECTIVE NOISES IN AND FROM THE EAR.[1]

BY CHARLES H. BURNETT M.D.,
OF PHILADELPHIA.

IT has been known for some time that irritation in the nares, especially at the posterior parts, in the erectile tissue, would excite a spasmodic cough. It has of late seemed very plain to me, that certain aural phenomena, such as objective noises in and from the ear, could be explained in a similar way. The irritation in the nares and nasopharynx in these cases may be reflected to the muscular tissues of the velum palati, the fibres of the superior constrictor of the pharynx, or to the pterygoid muscles, inducing clonic spasms, which in turn produce snapping sounds, audible at greater or less distances from the patients. Thus, in the case of a Japanese officer, reported on page 443 of the first edition of my "Treatise on the Ear," an objective noise in the right ear was audible several feet from the patient, the nasopharynx and the pharynx were catarrhal, the opposite ear was affected with chronic purulent disease, and the ear from which the noise emanated had been the seat of an otorrhœa a year previous, and finally manifested symptoms of acute catarrh; the membrana tympani opened spontaneously, and mucus was discharged from it. Upon amelioration of the catarrhal disease in this case, the objective noises ceased. In this instance there was a marked spasm of the right half of the velum with the occurrence of each objective snapping sound in the ear. Spasms in the velum are the most usual visible manifestations in the muscular tissues near the ear, and have been noted by other observers in cases of similar objective aural noises.

Recently I have observed two other cases of objective aural noises, both of which were evidently connected with catarrhal disease in the nares and nasopharynx.

The first case was that of a young physician twenty-eight years old, who consulted me on October 5, 1883. He stated that for twenty months he had felt a "clicking" in his left ear, produced by both objective and subjective sounds, as, for example, the clicking of a card in the fingers, or the blowing of a shrill toy-whistle near his ear, or by his own coughing, speaking, or singing. It was found that when he said m, n, or o rather loudly, but with no other vowel sound, this "clicking" in his ear was produced. I thought I could detect a slight change in the pyramid of light, *i. e.*, a slight motion of the membrana tympani, when he produced the "clicking" in the ear by uttering these consonant and the vowel sounds; I also faintly heard, by means of the auscultation-tube, the "clicking" in his ear, when he produced it as described above.

There was no difference in this sound, when induced by subjective or objective causes; it was more likely to be produced at night or the end of the day when fatigued, than in the early part of the day. Up to this time it had never occurred automatically, *i. e.*, without an objective or a subjecto-objective excitant. Subsequently, when the patient was run down by the winter's work, this "clicking sound" did occur automatically, when he was entirely quiet.

The membrana tympani displayed a good lustre, and the pyramid of light was fair; the membrane was retracted, and the incus was visible. The membrane moved fairly under the pneumatic speculum. The right membrane manifested an identical condition. The Eustachian tubes were entirely pervious to inflations; the anterior and posterior nares were hypertrophic, the left markedly more so than the right; the pharynx was red, and manifested tobacco-smokers' pharyngitis. The patient had smoked cigarettes to excess, but had not done so recently.

There was at no time any discernible muscular spasm in any part of the pharynx, nor velum palati, nor was the patient conscious of any spasmodic motion or twitching in any part of the naso-pharyngo-aural tract.

Treatment.—The anterior, hypertrophied portions of both inferior turbinated bones were touched several times with Lugol's solution of iodine. Upon one occasion this mixture was pushed along the left inferior turbinated bone to the posterior pharyngeal wall. This caused pain and brought on an attack of the "clicking" in the left ear. The pain and the "clicking" were quickly allayed, however, by spraying the nostrils with fluid cosmoline (Petroleol). In a short time, *i. e.*, after four or five applications of the iodine to the inferior turbinated bones, and the use of the cosmoline spray, the hypertrophy became much less, and the noise in the ear occurred less readily and not so frequently. The patient then dropped all treatment until last spring, when the "clicking" became very annoying, occurring quickly when the patient was exposed to noises, or when he sang, talked, or whistled. Finally the noise occurred automatically even when the patient and his surroundings were perfectly quiet. The patient was somewhat debilitated, and, about this time, after running up stairs one evening after supper, fainted upon reaching his room.

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[1] Read before the American Otological Society, July 15. 1884.

The nasal hypertrophies, both anterior and posterior, especially on the left side, seemed larger, and the nasal catarrh generally worse. Iodine and glycerine, equal parts, were applied to the hypertrophies, the nares were sprayed with Dobell's solution, and once the hypertrophied tissues at the back of the septum on the left side, were scarified by Dr. Seiler, by means of the galvanic wire-cautery. This treatment produced very good results, the "clicking" practically ceased to annoy, as it occurred very rarely, and only very faintly. The improvement has been maintained to the present time.

Etiology.—There was in this case an undoubted spasmodic action in muscular tissue near the Eustachian tube, but entirely invisible to the examiner, and not felt by the patient. I am disposed to locate this muscular spasm in this case, in the upper fibres of the superior constrictor of the pharynx. This muscle arises from the lower third of the margin of the internal pterygoid plate, and its hamular process, from the contiguous portions of the palate bone, and the reflected tendon of the tensor palati muscle, from the pterygo-maxillary ligament, from the alveolar process above the posterior extremity of the mylo-hyoid ridge, and by a few fibres from the side of the tongue in connection with the genio-hyoglossus. Its superior fibres of insertion arch beneath the levator palati and the Eustachian tube.

The mucous membrane of this muscular tract was, as has been stated, markedly catarrhal, the inferior turbinated bones, and the nares were hypertrophied, and the fauces were affected by smokers' pharyngitis. In these conditions in the mucous membrane, there is found sufficient cause of irritation of the sensitive nerves in these parts; this irritation is reflected to the underlying muscular structures through motor nerves, and there ensue spasmodic twitchings near the Eustachian tube, which are perceived as subjective and objective noises.

That the origin of these "clickings" lay in the catarrhal condition of the upper pharynx and the nares, is freely shown by the cessation of noises upon the amelioration of the catarrhal symptoms.

The easy excitation of the spasms by talking is explained by the fact that a few fibres of origin of the superior constrictor of the pharynx arise from the genio-hyo-glossus, and hence lingual motions would tend to excite the aforesaid sounds in the ear. It may also depend upon the motions of the jaw, as the constrictor has a partial origin from the posterior part of the alveolar process, and also upon the movements of the buccinator, which has a common origin with the superior constrictor of the pharynx, in the pterygo-maxillary ligament.

The annoying audibility of these muscular spasms is due to the insertion of the superior constrictor near the Eustachian tube.

Another case, of objective snapping noises in the ear, came under my observation within a short time, and is now under treatment.

Miss McG., aged twenty years, stated on June 2, 1884, that about six months previous she had first noticed a clicking sound in her right ear, and that her family noticed that they, too, could hear it. She is not disturbed by the noise at night, though it appears to be almost ceaseless. Its occurrence is paroxysmal, with short intervals. It is heard objectively quite as well, perhaps better, at the nostrils than at the meatus of the right ear. It is very well heard at the latter point by means of the ear-trumpet. The number of "clicks" is about eighteen or twenty per minute. With each clicking sound the lower maxilla is both felt and seen to move, chiefly toward the right side; the latter symptom is very annoying to the patient. A manometric column attached to the right ear, rises and falls with each "click," due very probably, however, to the motion of the lower maxilla, and not to movements in the membrana tympani.

The patient stated that she had of late begun to hear the noise in the left ear. Objectively it is not very pronounced on this side. It can be heard, however, at this point. Pressure upon the muscles over the carotid on the right side, behind the angle of the jaw, arrests the motion of the latter, and the objective noise. Opening the mouth very widely, stops the noise almost entirely, only a faint "click" being heard now and then.

The patient is a pale blonde, somewhat neurasthenic; the right membrana tympani is opaque and retracted, and on this side the hearing is reduced to a few inches. The nares, nasopharynx, and fauces are catarrhal, and she feels often the dropping of mucus from her nasopharynx into the throat. Her spirits are not depressed by these peculiar aural phenomena, and she sleeps well. The motion of the lower maxilla, observed in this case, in connection with each clicking sound, is due to a clonic spasm of the pterygoid muscles of both sides; but chiefly of the left side, as denoted in the greater tendency of the maxilla to move towards the opposite side, *i. e.*, toward the right, since when the external pterygoid muscle of one side acts either alone, or chiefly, the corresponding side of the jaw remains fixed, and the symphysis deviates to the opposite side.

The distinct, objective audibility of the spasms at the nares and auditory meatus is due to the fact that the internal pterygoid arises from the pterygoid fossa, its fibres being attached to the inner surface of the external pterygoid plate, and to the grooved surface of the tuberosity of the palate bone. Its internal surface is in close relation to the tensor palati, while the external pterygoid arises from the pterygoid ridge on the wing of the sphenoid, and the portion of the bone included between it and the base of the pterygoid process and from the outer surface of the external pterygoid plate, and from the tuberosity of the palate and superior maxillary bones. Hence any vibration occurring in the muscular structures near these points of origin would be easily communicated by the Eustachian tube to the tympanic cavity and the external ear, and also directly through the nares to the external air. So that a snapping sound occurring in the region of these muscles would be at once a subjective and an objective noise in and from the nasopharynx and ear. These sounds may have been augmented by a simultaneous spasm in the fibres of the superior constrictor of the pharynx, which has a small tract of insertion on the inferior maxilla, above the inner end of the mylo-hyoid ridge.

The spasms in the muscles in this case are to be accounted for, as in the previous instance, by the catarrhal irritation conveyed to the sensitive nerves of the mucous membrane in the vicinity of the muscles affected. The irritation is thence reflected to the motor nerves of the muscles in the catarrhal tract, and the latter, in an endeavor to eject the irritant, are thrown into a series of clonic spasms.

That these clonic spasms in the muscular structures of the nasopharynx, and the consequent snapping sounds, are produced by catarrhal irritation in the mucous membrane of the implicated muscular tract, is further proven by the cessation of the noises as soon as treatment has benefited the catarrhal state of the nasopharynx and nares. So far as the writer is aware, this is the first suggestion to quell these objective snapping noises in the ear by curing the nasopharyngeal catarrh, which very evidently underlies them as a reflex cause.

CHRONIC ARTICULAR OSTEITIS OF THE KNEE-JOINT, AND DESCRIPTION OF A NEW MECHANICAL SPLINT.[1]

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I HAVE chosen the term Chronic Articular Osteitis as the one best expressing the pathological condition found in those lesions of the epiphyses of the knee-joint that have usually been described by the older writers under the caption "tumor albus." My reason for so doing has been by proper classification to refer directly to inflammation of the cancellous structure of bone, thereby avoiding the confusion that usually exists if the more general terms arthritis and knee-joint disease be employed.

Before considering the main feature of the paper, viz., to bring before your notice a new mechanical splint, designed for the treatment of chronic articular osteitis of the knee-joint; it may be profitable to review hastily the etiology and pathology of the affection, the latter especially in reference to its clinical expression, a thorough appreciation of which aids so materially in deciding upon an intelligent method of treatment.

From an analysis of many hundred cases of articular osteitis, I feel safe in asserting that two structures only are responsible for the development of chronic osteitis.

1st. The cancellous structure of the epiphyses.

2d. The synovial membrane.

Frequently the two are combined, and disease of either may develop from the other; it is not, however, until the cartilages and ligaments have been invaded by the inflammatory process that we are justified in using the term Arthritis.

The pathological changes that give rise to the more familiar clinical symptoms, may be classified in the following order:

A simple non-suppurative osteitis interna, the primary lesion in the more formidable osteitis interna fungiosa, caseosa, or necrotica, accompanying which suppuration or the formation of inflammatory neoplasia frequently adds serious complications to the process of cicatrization.

Of these and the many other subdivisions of chronic articular lesions designated by different pathologists, only two demand special consideration—the fungoid and suppurative, to which we may add the non-humid variety of old age, the "caries sicca" of Billroth.

In all save the necrotic variety, the process of destruction is by molecular death and absorption, or suppuration; the character of the discharge frequently marking the atonic form of the lesion.

The fungous proliferations of a chronic synovitis may, from pressure, eat their way through the cartilage and produce by contiguity an osteitis superficialis; traumatism, by direct injury to the articular surfaces, may produce the same inflammatory process; seldom, however, without a predisposition to the strumous, tuberculous, or rheumatic diathesis.

Any of these inflammatory conditions when existing in the epiphyses, give rise to certain neural disturbances that aid materially in their recognition. I refer to the ever-present symptom of rigidity of the joint due to a reflex spasm of the muscles that control it. This interference with normal joint-motion is due to an inflammatory irritation of the nerves distributed through the epiphyses, reflected by their centripetal fibres to the multipolar cells, thence to the great nerve-centres causing the apprehensive condition of pain, and the reflex spasm and consequent atrophy of the muscles controlling the articulation. It is to this involuntary muscular spasm that we are indebted alike for a means of differentiating true osteitis from many of the diseases that simulate it, as well as the insidiously progressive character of the deformity, *i. e.*, flexion of the limb and the frequent subluxation of the head of the tibia into the popliteal space. Accept what definition we may of the lesions found in post-mortem examinations of the joints, the progressive character of the disease, the tendency it presents to frequent exacerbations after long periods of repose, the difficulty in controlling deformity and of relieving pain, the frequent formation of cold abscesses, all class their treatment among the most difficult problems that may fall to the lot of a general surgeon. To meet the universally recognized principles of treatment, *i. e.*, fixation of the joint and extension, I have designed the splint that I now feel justified, from the success that has attended its use, in presenting to the profession.

It consists of two light padded steel troughs (A A) that are firmly secured to the limb by encircling bands of surgical webbing, affording absolute fixation to the joint when the extending rods are locked after adjustment. Three ratchet extension bars arranged in the form of a triangle are placed posteriorly, corresponding to the long axis of the limb, placing within the control of the surgeon a power that will overcome the flexion and the tendency to the production of deformity, and at the same time produce extension. It will be noticed, in referring to the accompanying cut, that the extension rod "B" acts directly upon the head of the tibia and parallel with the line of contraction of the flexor group of muscles, obviating thereby the error in the mechanical arrangement of the popular Stromeyer's splint, or in all where the power is applied low down on the tibia to overcome the flexion. Reference to Fig. 2 will illustrate diagrammatically the point at issue, *i. e.*, how to overcome the flexion and subluxation without establishing a fulcrum (F) at the surface of the diseased joint, which would be the case should we apply our force at (P) a distance below the insertion (R) of the resisting flexor tendons.

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[1] Read before the Medical Society of the State of Pennsylvania, Philadelphia, May, 1884.

Fig. 1.

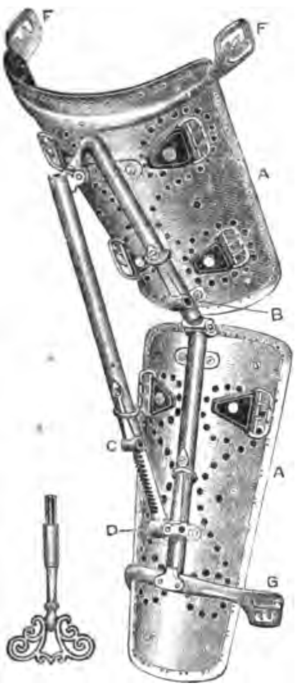
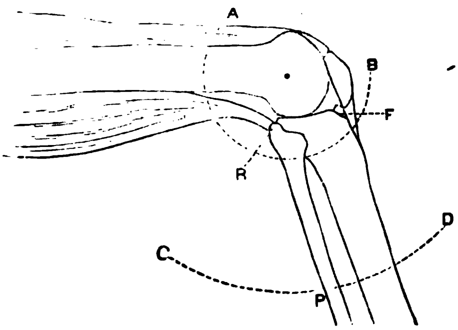


Fig. 2.



In the splint under consideration, the long extension rod "C" it used only as a compensating bar, adjusting the angle of the splint to the angle of the flexion of the limb. The power for restoring the head of the tibia, and overcoming the spasmodic contraction of the flexor muscles is applied directly in the axis of their contraction. Through the extension bar "B" (Fig. 1) the head of the bone describes in its restoration the arc of a circle, A-B (Fig. 2). The compensating bar in correcting the angle or flexion carries the limb through the arc C-D having a centre in the end of the femur. Mechanically this arrangement of force corrects the deformity and relieves, by extension, the reflex spasm of the flexor muscles without crowding together the diseased joint-surfaces or aiding in subluxating the head of the tibia, as would be the case should the limb proper be used as the long arm of our lever with the insertion of the hamstring tendons, instead of the normal centre of motion of the joint as the centre of motion of the splint. Supplementing the direct extension upon the contracted muscles, another bar ("D") has been added to aid in steadying the joint and relieving inter-articular pressure. Its action upon the limb is produced through adhesive plaster applied above and below the joint, to which surgical webbing has been attached. This is firmly secured to the counter-extending band "F," and to the extension rod "G," affording a means of direct extension always corresponding to the angle of flexion. The extension bars are controlled by a key and ratchet movement held in place after adjustment by a small ring and pin. I have found that this method of securing fixation with extension by a portable appliance enables the patient to enjoy, by means of crutches, all the hygienic advantages of open air and exercise, facilitating thereby a better result than would otherwise be obtained.

MEDICAL PROGRESS.

Femoral Hernia; Perforation of a Diverticulum.—At the recent German Surgical Congress, Dr. Busch, of Berlin, described the case of a man, aged fifty-three, who had for years worn a truss on account of a small femoral hernia on the right side; this gave him no inconvenience and could readily be replaced. At the beginning of April he was seized with severe pains; he reduced the hernia, which appears to have increased in size, and the pain immediately increased, and severe peritonitis and distention of the abdomen followed. The patient was admitted into the hospital almost moribund, and nothing could be felt in the right femoral region excepting a slight thickening of the tissues. Enemata of lukewarm water were administered, but the patient died within five hours after admission. At the necropsy, the peritoneal cavity was found to be filled with feces; on the right side was the sac of a femoral hernia completely empty. A small diverticulum projected from the small intestine, two feet and a half above the cæcum; it was not gangrenous, but at its base a small perforation was detected. Dr. Busch believes that the diverticulum had probably occupied the hernial sac, and had become ulcerated through pressure of the structures surrounding the neck of the sac, hence the extravasation of feces and the disastrous results that followed the reduction of the hernia. The diverticulum was exhibited at the meeting of the Congress.—*British Med. Journ.*, June 14, 1884.

GANGRENE AFTER SUBCUTANEOUS ARTERIAL WOUND. —DR. C. JUENGST, of Heidelberg, in addition to a case of this kind published by Weitz in the *Berlin. klin. Wochens.*, No. 7, 1884 (see *Amer. Journ. Med. Sci.*, April, 1884, p. 593), reports two similar cases, which seem noteworthy from the fact that the gangrene occurred after an isolated wound of the arterial intima.

A young man, æt. 19 years, sustained a simple fracture of the right forearm in the lower third. The patient did very well until the fourth day, when it was found that there were slight troubles of sensibility, and that the skin was slightly discolored. On the fifth day the fingers and hand were completely anæsthetic and anæmic: above the seat of fracture the skin and sensibility were normal. On the sixth day, the condition being no better, it was determined to amputate between the upper and middle third. Examination of the amputated part showed that the radial and ulnar arteries were sound, while the brachial artery contained a thrombosis in the upper amputated surface. Further examination showed that the intima was ruptured almost half way around the circumference, but the media and adventitia were uninjured.

A young man, æt. 20 years, received a severe wound upon the left knee. A few hours later the lower third of the thigh, the region around the joint, and the upper two-thirds of the leg were greatly swollen, the skin stretched tense and elastic by the blood effusion, and considerably blackened and excoriated. There was abnormal mobility of the knee-joint, with slight crepitation. The pulse in the right posterior tibial and dorsalis pedis arteries was normal, but could not be felt on the left side; and the left foot was cool and anæmic, though sensibility and motion were about normal. On the next day the foot was discolored, and, although warm, no arterial pulse could be felt. On the third day sensibility in the foot was lost. After a few days more, bullæ began to form on the now painful, partly reddened and partly livid leg, and the general temperature rose. On the eighth day the limb was amputated above the knee. Examination of the amputated portion showed that the knee-joint was full of serous effusion, the capsular ligament completely torn through, and the internal condyle of the tibia shattered, as well as the head of the fibula. In the popliteal artery a rupture of the media and intima, about one inch above the bifurcation, and a thrombus had occluded the vessel at this point. The peripheral part of the artery was completely bloodless, as was the popliteal vein above the wound, it also containing a thrombus, although there was no rupture of its coats.

These cases are noteworthy from the fact that gangrene of the arm and leg was caused by an isolated injury of the intima of the principal arteries, and without involving the other arteries. In the first case this was a simple tear, produced probably by overstretching of the vessel. Whilst in the second case the severity of the traumatism, and the cold and anæmic condition foreboded the result, these symptoms were absent in the first case, in which there were never any symptoms of elbow-joint injury until the limb was examined after amputation. The absence of pain and swelling in the joint, and the situation of the lesion—the lower third of the forearm, rather precluded the diagnosis or even suspicion of injury to the joint. And it was not until four days after the injury that there were any evidences of circulatory arrest. These cases, and the one reported by Weitz, are, therefore, of unusual interest, as showing how easily a simple fracture may be the indirect cause of gangrene, and what time may elapse after the injury before symptoms of circulatory arrest set in.—*Berliner klin. Wochenschr.*, April 14, 1884.

DERMATOLYSIS OR PACHYDERMATOCELE—FIBROMA MOLLUSCUM.—SURGEON-MAJOR D. F. KEEGAN reports the case of a Hindoo, æt. forty years, who came under his care in the Indore Charitable Hospital. On being examined the whole of his body was found studded over with fibroma molluscum, varying in size from a pea to a walnut. In addition to the numerous fibromata, he was found to be the subject of a huge pachydermatocele or dermatolysis, which sprung from the left mammary region and hung down along his side, reaching to the level of the left great trochanter of the femur. When the patient walked briskly this pendulous tumor swayed backwards and forwards, and it could be taken in the hand and laid on the supraclavicular region. For years this tumor had caused him much inconvenience by its weight and size. The only portions of his body found to be free from the smaller fibromata were the soles of his feet and the palms of his hands. Up to his tenth year he was quite free from any tumors of the skin, and then for the first time he remarked the existence of a small tumor of about the size of a pea, growing about two inches posteriorly to the left mamma. This tumor has steadily grown for the last thirty years, and has at last become so inconvenient from its weight, size, and position, that he finds much difficulty in doing his work. During all these years the greater portion of the integument of his body has been invaded by fibromata. He further states that his mother had a similar tumor of about half the size of his own, and that it grew in the same situation.

The tumor springs from the level of the left mamma and hangs down as far as the left great trochanter of the femur. Its base or pedicle measures five inches in width and nine inches in girth or circumference. The length of the tumor from base or pedicle to its most dependent point is twelve inches, and the circumference of the tumor at its thickest portion measures fourteen inches. The tumor consists of a lax outgrowth of connective tissue, and feels like a long, loose bag of integument, which can be separated on pulling it out from opposite directions, and the looseness of the contained areolar tissue allows the inner walls of the tumor to be rolled one upon the other. The tumor on being grasped between the fingers gives arterial pulsations, showing that it is well supplied with blood. The surface presents the main characters of normal integument somewhat thickened, and the skin follicles are very distinctly marked. Cuticular sensibility is slightly diminished over the tumor. It has never shown any tendency to ulcerate at any point, although it has often been torn by thorns and brambles when the patient was working in the fields.

Dr. Keegan determined to remove the tumor.

Chloroform having been administered and the base or pedicle of the tumor having been secured by a broad clamp, the pachydermatocele was removed with one sweep of a long catlin. It was found necessary to twist several large vessels, and the actual cautery was passed over the line of incision. Very little blood was lost, and he made a good recovery. The weight of the tumor on being removed was found to be two pounds and six ounces, and consisted of thickened integument and areolar or connective tissue well supplied with numerous bloodvessels.

He places this case on record not on account of any surgical importance it may possess, but with a view of proving that the disease which Valentine Mott called pachydermatocele, and other authors call dermatolysis, is only an exaggerated form of fibroma molluscum, Certain it is that this disease bears a very close relation to fibroma, for here we find the two diseases associated in the same patient.—*Indian Med. Gazette*, April, 1884.

CIDER AND STONE IN THE BLADDER.—According to DR. DENNIS DUMONT, stone in the bladder is almost unknown in Normandy, which he attributes to the use of cider in place of wine or beer. In a report on the subject he asserts that during nineteen years' practice in the hospital at Caen he had only four cases of stone in the bladder, in three of which wine was the habitual drink of the patients. A further inquiry having been instituted, it was ascertained that at Bayeux and Falaise, in the Department of the Manche and the Orne, the rarity of stone in the bladder in these regions is attributable to the use of cider, and to a diet containing less nitrogenous substances than that generally adopted in the other provinces, notwithstanding the abundance and cheapness of meat. Cider is therefore considered an excellent remedy for gravel, obesity, and certain forms of gastritis.—*Lancet*, June 14, 1884.

NEEDLE-SWALLOWING.—A. WIDE reports (*Upsala Läkareför. Fördhandlingar*, 1884, Bd. xix. Hft. 2), under the above title, a case similar to the one recorded by Albert in his work on surgery, in which Otto, of Copenhagen, removed, at various times, three hundred and ninety-five needles from the body of one patient.

Wide's patient was a young woman of twenty-three years, strong, but of phthisical family. In 1876 she had acute rheumatism, and was four months in the hospital. With the exception of rheumatoid pains in the limbs and stitch-like pains in the cardiac region, she became well, and remained so until early in 1882, when attacks of faintness, headache, and pains in the joints, palpitation of the heart, and shortness of breath troubled her. In the summer of 1882 she had symptoms of gastro-intestinal catarrh, and in August had an attack of stiffness in the back and legs, so that she could not get out of bed without help. There seemed to be nothing wrong about the thoracic or abdominal organs. In November, 1882, obstinate vomiting came on, not connected with the time of eating, obstinate constipation, pains in the abdomen, and hypersensitiveness of the cæcal region. After that, she had an attack of tonic cramps, and, following that, had left hemiplegia and hemianæsthesia, so that a diagnosis of hysteria was made. From May until June, 1883, there were attacks of painful vomiting, with diarrhœa. There were sharp pains in the right knee and left arm, as well as in other parts of the body, and a small abscess formed on the inner side of the knee, which, on being opened, was found to contain a needle. In other parts of the body there were seen bluish-red, painful elevations of the skin, in every one of which a needle was felt. The patient was chloroformed, and from the arms, legs, and skin of the thorax and abdomen twelve and a half needles were removed.

The patient then stated that in May, 1881, she had swallowed five and a half packages of needles, each package containing twenty-five needles, in order to commit suicide. She had swallowed them with the eye-end forwards, and generally enclosed in paper. She finished the five and a half packages in two weeks. There were no pains for several weeks, and defecation was never painful; nor had any of the needles passed in the stools. Subsequently, at nineteen different times, sixty-five whole and six half needles were removed. By January, 1884, thirty-one more were removed, and in January, eleven, so that up to the time of the writing, one hundred and ten needles had been found. By this time the patient had become hysterical again, and at Christmas swallowed five packages, four of which contained more than twelve needles each. Wide concludes his article by mentioning a case recorded by Herholdt, in which three hundred and eighty-nine needles were swallowed.—*Centralbl. für Chirurgie*, May 24, 1884.

DEAFNESS IN SYPHILITIC TABES.—DR. P. HERMET, in an article on this subject, draws the following conclusions:

1. Deafness in syphilitic tabes is due to a deep lesion.
2. Its evolution is very rapid, and it may be considered as a symptom of the preataxic period.
3. It is an element in making a diagnosis, and when one observes sudden deafness in a syphilitic, without apparent lesion, other symptoms of locomotor ataxia should be carefully looked for.—*L'Union Méd.*, June 14, 1884.

IODOFORM IN ERYSIPELAS.—MR. C. CLARK BURMAN calls attention to the value of iodoform in collodion (ʒj to f℥x) as an application for erysipelas. The heat and pain quickly disappear, and the swelling rapidly subsides. Furthermore, there is a remarkable freedom from irritation during the period of desquamation. Mr. Burman reports four very successful cases.—*Practitioner*, May, 1884.

EXTIRPATION OF THE KIDNEY.—At a recent surgical clinic, PROFESSOR BILLROTH presented a kidney which he had removed on the previous day, and made some general remarks on total extirpation of the kidney.

The patient was a male, about thirty years old, who first presented symptoms of kidney trouble eighteen months ago—pain in the back, etc. Later, a tumor developed under the free border of the ribs, and was somewhat movable. The nature of this tumor was quite obscure; the fever, which seemed to be associated with its growth, pointed to a perinephric process. Echinococcus was excluded on account of the rapid growth of the tumor, and since there was scarcely any fluctuation. Three months ago the patient asked for an operation for the removal of the tumor, but he was so strong, and in such good general health, that Billroth hesitated to operate. A bandage was put on, in order to fix the tumor and lessen the pain, but it soon became painful by the pressure.

Four weeks ago, a new difficulty arose. The pain in creased, the legs suddenly swelled, and it was found that both femoral veins were thrombotic. It was difficult to conceive how this could have occurred. Compression of the vena cava by the tumor was thought of. Billroth now believed that the thrombi would break down, and cause death. But, curiously enough, the thrombi were completely loosened in two or three weeks, and the œdema completely disappeared. How this loosening of the fibrin-clot occurred, whether in small molecules or in mucous forms, is uncertain. Billroth inclines to the latter hypothesis, since we very often see in wounds such thread-like masses which come from loosened thrombi.

After the tumor and ascites disappeared, the tumor could be again examined. It had become about one-half larger. It could not be a chronic inflammatory process, but most probably a tumor connected with the kidney. The urine was normal. But it was not, therefore, a foregone conclusion that the tumor was malignant, although the chances seemed to be that it was malignant. It was, therefore, determined to extirpate the kidney. The upper fourth of the kidney was healthy, but the lower three-fourths were enlarged by malignant growth. The patient rallied well from the operation, and was doing well on the second day.—*Allg. Wien med. Zeitung*, May 13, 1884.

ADMINISTRATION OF PARALDEHYDE.—DR. KERAVAL gives the following as the most convenient formulæ for the administration of paraldehyde:

For internal use—Paraldehyde f ʒj, distilled water and some aromatic syrup (mint or vanilla) āā f ℥j. For rectal administration—Paraldehyde f ʒj, marshmallow water f ℥v, one yolk of egg. For hypodermatic use—Distilled water f ℥ss, cherry-laurel water and paraldehyde āā f ʒj. This should always be warmed before injection, as otherwise the paraldehyde may crystallize.

The following have been found to be useful formulæ:

℞.—Paraldehyde,	f ʒvj.
Essence of peppermint,	gtt v.
Olive oil,	q. s. ad f ℥jss.—M.
℞.—Paraldehyde,	f ʒss–j.
Tinct. bitter orange peel,	f ʒij–iv.
Distilled water,	q. s. ad f ℥iv.—M.
℞.—Paraldehyde,	f ʒiv.
Alcohol (90°),	f ℥ijss.
Simple syrup,	f ℥ij.
Tinct. vanilla,	f ʒj.—M.
℞.—Paraldehyde,	♏xv–f ʒj.
Boiling water,	f ℥j,
Simple syrup,	f ℥ij.
Tinct. vanilla,	q. s.—M.

[The dose of paraldehyde for an adult is from ♏xv to f ʒj or more.]—*Progrès Médicale*, June 14, 1884.

THE VASO-MOTOR NERVES.—MM. VON ANREP and CYBULSKI draw the following conclusions from experiments made in the laboratory of Prof. Tarchanow, in St. Petersburg:

1. No analogy exists between the vagi and the vaso-dilator nerves, as regards the action of atropine.
2. Furthermore, there is no analogy between the vaso-constrictor nerves and the accelerator nerves of the heart. It is well known that a maximum irritation of the accelerators is powerless to overcome the effect of a minimum irritation of the vagus.
3. A certain blood-impression is a condition *sine qua non* for a perceptible dilatation of the vessels.
4. The period of slow irritation of the vaso-dilator, as well as of the vaso-constrictor nerves of the tongue, and also the height of the waves for the same number of induction-beats and the maximum wave-heights are closely related.
5. Consequently, there is no essential difference between the two sorts of vaso-motor nerves. It may, then, be admitted that there exist in the vascular walls two complicated nervous autonomies, one causing constriction, the other dilatation.—*Gaz. Hebdomadaire*, June 3, 1884.

ESSENTIAL ASCITES.—DR. TOULZE has recently made this the subject of an inaugural essay. Essential ascites, he says, is a rare disease, though there are cases which are undoubtedly examples of idiopathic ascites. It is a disease which has a special etiology, symptomatology, and treatment. While sympathetic ascites is rarely curable, idiopathic ascites is almost always curable after a longer or shorter time—generally after one puncture; several punctures are rarely necessary.

The diagnosis is very difficult, and should be made only after very careful examination. As to treatment, diuretics should be used at first, either the nitrate or acetate of potash, given in some preparation of triticum repens, or juniperus communis, or digitalis in some form may be administered. If these do not have the desired effect, drastic purgatives may be used, and preferably the resinous purgatives. If, in spite of internal medication, the fluid continues to accumulate, puncture must be resorted to.—*Revue de Thérap.*, June 15, 1884.

SPLENECTOMY.—At the meeting of the Société de Chirurgie, on June 11, 1884, M. TERRIER reported a case of splenectomy recently performed on a young girl for splenic hypertrophy and leucocytosis, there being one white in two hundred and sixty-three red globules of the blood. The patient died of slow internal hemorrhage in twenty-four hours, the hemorrhage being entirely from capillary vessels. This case confirms the precept that increase of the white globules is a contra-indication to surgical operations; although Franzolini performed this operation successfully when there was one white globule to thirty red.—*Gaz. Hebdom.*, June 27, 1884.

VAGINAL EXTIRPATION OF THE CANCEROUS UTERUS: NEPHRECTOMY.—At the meeting of the Société de Chirurgie, on June 4th, M. BŒCKEL reported a case of cancer of the uterus, operated on by vaginal hysterectomy, in October, 1882, and the uterus removed. From this the patient recovered, but with a ureteral fistula, one of the ureters having been caught in the teeth of a pair of hæmostatic forceps. Bœckel saw no remedy for this except nephrectomy, which he performed one month after the first operation. The patient recovered, and left the hospital in three weeks, but died seven months afterwards from degeneration (cancerous?) of the abdominal glands.—*Journal de Méd. de Paris*, June 14, 1884.

THE MEDICAL NEWS.

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SATURDAY, JULY 26, 1884.

THE PREVENTION OF CHOLERA.

THE International Sanitary Conference of 1874 unanimously affirmed that "the Asiatic cholera, susceptible of epidemic extension, is not developed spontaneously, except in India, and when it appears in other countries it is invariably by introduction from without." The evidence of the truth of this conclusion is overwhelming and decisive, and is admitted, we believe, by all medical men and sanitarians who have given the subject any serious thought. Moreover, when cholera spreads to other parts of the world it invariably follows the lines of travel, and it has never appeared in America unless Europe has been first affected.

With these facts before us, there is abundant evidence to prove that two things are absolutely necessary to prevent the introduction of the disease into our country, viz., *quarantine and municipal cleanliness*—by quarantine we mean such detention as will positively insure a clean ship and cargo, with non-infected passengers and baggage.

How best to secure these results are the only questions with which we have now to deal. The Government has taken the initiative by requiring the consular officers abroad to have all vessels bound to the United States thoroughly inspected before sailing, whether from infected ports or otherwise; to refuse clean bills of health, unless so inspected, and to give timely notification by cable of the progress of the disease, and of the departure of any suspicious vessel or of emigrants from the infected districts for our shores. As a further security, the Revenue Cutter Service has been placed on guard to intercept all vessels coming to this country, and to ascertain not only whether they have clean bills of health, but also to learn whether any disease has appeared on board since they left the other side, and if they are in a good sanitary condition. The Treasury Department has also temporarily interdicted the importation of rags from all countries infected or supposed to be infected. Government quarantine stations, under the management of the Marine-Hospital Service, are now open at Ship Island, Miss., Sapelo, Ga., and between the Capes in Chesapeake Bay, for the refuge of infected vessels, and the care of their diseased passengers and crews.

Quarantine, which includes disinfection, and all the procedures necessary to change an infected ship into a clean and healthy one, requires that the sick be removed to isolated hospitals, the well to comfortable barracks for observation; and the luggage of sick and well to be removed and subjected to thorough disinfection. The cargo to be discharged upon lighters, or removed to warehouses, exposed to the air, and disinfected if practicable, or destroyed if not—as in the case of fruits, etc., the vessel to be then thoroughly disinfected by the most approved methods, first having been washed out and cleansed; it is then ready to go to its dock.

Municipal cleanliness includes house-to-house inspection—back-yards, water-closets, cellars, cesspools, and out-of-the-way places, should receive particular attention—the streets, market-houses and surroundings, must be kept clean; school-houses, factories, and other large establishments and their inmates should be included; the water-supply should be examined, and water boiled before using if found to be impure; well-water is particularly dangerous on account of its liability to receive the over-flow from storm-water or from seepage, and reservoirs are not less dangerous if located so as to receive the washings from hill-sides or ravines; water-closets and sewers should be flushed with abundance of water, the former daily, the latter two or three times a week. In the country stagnant pools must be drained, out-houses, pig-pens, and the like, kept clean, and privies disinfected daily. Personal cleanliness must be maintained, and the diet must be wholesome—fruits, if imported, should be carefully washed or peeled, and over-ripe or green fruits rejected.

OPERATIVE INTERFERENCE IN STRICTURES OF THE ŒSOPHAGUS.

THE treatment of carcinomatous and cicatricial strictures of the œsophagus by incision or the establishment of a fistula in the neck or the abdomen has attracted not a little attention during the past year, the most noteworthy papers that have appeared on the subject being those of Alsberg, Blum, Fiedler, Vitringa, and S. W. Gross on gastrostomy, that of Sands on internal œsophagotomy, and an elaborate article on gastrostomy, œsophagostomy, internal œsophagotomy, combined œsophagotomy, œsophagectomy, and retrograde divulsion, contributed by DR. S. W. GROSS to the July number of the *American Journal of the Medical Sciences*. An analysis of the merits of the operation in the light of the latest statistics collected by Dr. Gross will doubtless prove acceptable to our readers, since which is the best method of treating these cases is still *sub judice* and will be discussed in the Section of Surgery at the forthcoming International Congress at Copenhagen.

Omitting œsophagectomy, which can rarely be called for, the operations applicable to carcinomatous stricture are gastrostomy, œsophagostomy, and internal œsophagotomy. Of 167 gastrostomies, 49, or 29.34 per cent., perished as the direct or indirect result of the procedure, while 66 died of exhaustion, inanition, or extension of the disease, at periods varying from nine hours to one month, 32 having expired within twenty-four hours from the tardy resort to the procedure. Of the 46 that were known to have lived upwards of one month, 28 expired subsequently in from five weeks to ten months, while 18 were still alive at periods varying from one month to thirteen months. The average duration of life for all cases after the stomach was opened was 33 days.

Of 21 œsophagostomies, 12, or 57.14 per cent., died as the result of the procedure, while 5 perished from exhaustion. The 4 survivors lived for periods which varied from two to sixteen months, while the average life for all cases was forty-six days. In 4 of the fatal cases death was occasioned by the improper use of dilating bougies or tubes used for feeding.

Internal œsophagotomy was practised only once, but five distinct operations, supplemented by methodical dilatation, were required to keep the patient alive for six months.

From the foregoing data, Dr. Gross concludes that gastrostomy has proved to be the simplest, most rational, and safest of the operations for the relief of carcinomatous stricture. Increasing experience demonstrates that the results are growing better and better, which cannot be said of œsophagostomy; and there is every reason to believe that the successes will become more numerous if it is resorted to as soon as the diagnosis of the disease has been made, and before the powers of the patient are materially impaired. The procedure itself requires no special skill for its performance, and the subsequent treatment may be entrusted to the patient himself. In not a few cases, by affording rest to the parts, the spasm, swelling, and pain disappear, and the subject is enabled to swallow with comparative ease.

The same operations, with the addition of combined œsophagotomy and retrograde divulsion, are applicable to cicatricial stricture. Of 37 gastrostomies, 11, or 29.72 per cent., perished as the direct or indirect result of the procedure, and 9 died, at periods varying from thirty hours to twenty-eight days, from exhaustion, starvation, or other causes. Of the 17 survivors, for upwards of one month, the precise duration of life is known in 16. Of these 9 died subsequently in from two to forty-eight months, while 7 were living at periods varying from four months and a half to fifty-six months. The average duration of life for all cases after the stomach was opened was two hundred and ninety-five days.

Of 5 œsophagostomies all proved fatal, the average duration of life having been forty days. In 1, the passage of the bougie produced a deep-seated abscess, and in 3 the opening was made above, instead of below the stricture.

Of 18 cases of internal œsophagotomy, 6, or 33.3 per cent., perished as the result of the procedure within sixteen days. Of the 12 survivors 9 were living at periods varying from one month to seven years, but 6 cases required a repetition of the operation. The average life for all cases was two hundred and forty-six days.

Of 5 combined œsophagotomies, 2, or 40 per cent., perished, while the remaining cases were alive, respectively, at the end of three, twelve, and eighteen months, but the condition of one was unsatisfactory.

Of the three retrograde divulsions, in the hands of Loreta, all were successful, but as less than four weeks had elapsed at the date of the reports, the value of the procedure must remain undetermined.

Divulsion through an opening in the stomach is only applicable to strictures near the cardia of the adult, and combined œsophagotomy for obstruction in the same locality should be reserved for children. Hence, these procedures are of limited applicability.

In estimating the comparative value of the other operations for cicatricial stricture, Dr. Gross concludes that internal œsophagotomy, if performed at all, should be done only for comparatively recent and short coarctations, that œsophagotomy should be practised when the incision can be made below the obstruction, and that gastrostomy is the best, safest, and most generally applicable of all.

SPERMATOZOA OR SPERMATOZOID.

THE subject of human generation has been of great interest from ancient times. For centuries the prevailing doctrine was that the male was the true creator, and the female furnished only the place and the means for the development of the new being. One of the most interesting cases illustrating this view, especially interesting in its medico-legal aspects, is found in Greek mythology; it is very well presented by Æschylus in the *Eumenides*.

It is not necessary to quote Æschylus, Aristotle, or other ancient authors to prove what great importance was attached to the male, and how little to the female in human generation. Harvey came, and his egg doctrine for a while made the spermist's theory somewhat doubted. But in 1677, or about that time, Ham—who, according to Robin's researches, was neither a medical student nor a German, as many recent writers assert—found in the nocturnal emissions of a patient having gonorrhœa, animalcules with a tail. Here we cannot help calling attention to the great obligations which science was thus placed under to gonorrhœa. How long might she have waited for the important discovery of the essential agent of fecundation if this disease had not existed! However, since that discovery science has done a great deal for gonorrhœa, and therefore we may consider the debt of the former as more than liquidated.

But, resuming; the great microscopist, Leeuwenhoeck, had his attention called to the discovery by Ham, and from his own observations he declared that human sperm was filled with *parvulis puerulis.* Of course, then, if the babies were already in the spermatic fluid, all that was necessary would be for one of these to get into the uterus, to grow there into a perfectly developed fœtus. Apollo, who in the play referred to taught the spermatic theory of generation, if he had only had a microscope, could have done as well; the fact is, his doctrine as to generation was repeated by Leeuwenhoeck, except that the latter made the essential agent a minute part, instead of all the spermatic fluid.

It was very natural that these supposed animalcules thus discovered in the seventeenth century, should receive the name of spermatozoa, but now that their animalcular character is generally rejected, the retention of the name is a mistake, and they ought to be called spermatozoids.

So, too, the part which they play in impregnation has, in recent years, become better understood. All are familiar with the picture, so common in works on physiology and on obstetrics, of an ovum around which, or within which, so many of the so-called spermatozoa are found, more numerous than suitors in the palace at Ithaca. Then, too, we were taught that this hungry crowd lost their individuality, underwent solution, and impregnation resulted from the nucleus of the ovum being thus in a sort of warm spermatic infusion,—very much, we suppose, as some unfortunate maiden has been thought to have been impregnated by bathing in a stream or in a tub in which a man has recently had a seminal emission. But now it is known, from the study of impregnation in some of the inferior forms of animal life, that only one spermatozoid is concerned in the process. This fortunate one among the hundreds discharged by the male, thrusts its head into the ovule—its tail, a mere organ of propulsion, being no longer needed, is dropped off, just as our ape-like ancestors in the far-past ages lost their tails—and from this head the male pronucleus is formed, which fuses with the female pronucleus, and the process of conception is accomplished.

TENECTOMY IN PARALYTIC TALIPES CALCANEUS.

IN the *British Medical Journal* for June 14, MR. WALSHAM records four cases of paralytic talipes calcaneus, treated by excision of a portion of the tendo Achillis. In three of these the patients were discharged walking well, while in the fourth, progression was improved, but with the foot still slightly flat. From one-half to three-quarters of an inch of the elongated tendon was excised, the ends being cut obliquely in opposite directions, so that, when approximated, they overlapped splicewise for about three-fourths of an inch, and were secured in this position by kangaroo-tail-tendon ligatures, two of which were applied on each side. The foot was secured in a position of extension by Bavarian plaster or tin splints. The operations were done under antiseptic precautions, and there was slight suppuration in one case.

Mr. Willett has also resected the elongated tendo Achillis in paralytic calcaneus with good results, and there can be no doubt that the procedure has a promising future in cases in which the gastrocnemius and soleus muscles have not undergone advanced atrophy and fatty degeneration.

THE RIPENING OF CATARACT.

CASES not infrequently arise in which it is desirable to mature or ripen a cataract with a view to early operation. If both eyes are the seat of the affection, if only one good eye remains and its vision is becoming obscured by slowly progressing opacities of the lens, or if the patient is about to move to a locality where there is no skilled surgeon, the hastening of the process of maturation may relieve not only the sufferer, but, it may be, his family from great distress, and prevent years of blindness.

To accomplish this object, FOERSTER, of Breslau, makes a preliminary upward iridectomy, through which the lens falls forward and comes in contact with the posterior surface of the cornea. If the latter be gently rubbed with a hard, smooth substance, as a Daviel's silver curette, either in a circular direction or from the centre toward the periphery, the lens will become opaque in from four weeks to three months, or even within a few days, if it were partly opaque before the manipulations were begun.

Massage of the lens has been performed by Foerster upwards of two hundred times, without any inflammatory sequelæ, and he considers it devoid of great danger. His favorable experience is not, however, confirmed by the results obtained by NOYES and MITTENDORF, as published in the *Medical*

Record for August 4, 1883, and June 28, 1884. Thus, of 8 cases in the hands of the former operator, 2 had a severe iritis, while of 20 under the charge of the latter surgeon, there were serious complications in 3, leading in one to loss of the eye, and a mild form of iritis, with a few fine thread-like posterior synechiæ, in 8. The remainder did well, the process of healing having been short, and some of the patients having being able to leave their bed on the second day. These results, which are in such striking contrast with those obtained by Foerster, indicate that the procedure should be resorted to with great caution.

REVIEWS.

ECZEMA AND ITS MANAGEMENT. By L. DUNCAN BULKLEY, A.M., M.D., etc. Second edition. New York: G. P. Putnam's Sons. No date.

THE present edition of Dr. Bulkley's admirable monograph differs in no essential degree from the first edition, issued a year or so ago. Some new statistical matter, a number of necessary typographical corrections, and a few words or sentences added here and there, are all that distinguish the present from the former issue. While, therefore, we would suggest that the owner of the old book need be in no hurry to exchange his possession for the new, we can most cordially recommend Dr. Bulkley's work to every practitioner of medicine who does not already own a copy. It is eminently practical, and the chapter on the management of infantile eczema alone, were it thoroughly mastered, would aid in the cure of many cases in which time only—under the ordinary management—can be expected to work amelioration.

A HANDBOOK OF THERAPEUTICS. By SYDNEY RINGER, M.D., Professor of Principles and Practice of Medicine in University College, London. Tenth Edition. 8vo., pp. xl. 988. New York: William Wood & Co., 1883.

DR. RINGER'S admirable work has reached its tenth edition, an evidence of the regard with which it is considered by the profession. The book is abreast of the latest therapeutical discoveries, and an elaborate and useful analytical index, prepared by Dr. Maxwell, is added, compensating in some degree for the faulty arrangement of the subjects. A noteworthy feature of this edition is an excellent introductory treatise upon the various objective symptoms of disease, including notes on the tongue, pulse, skin, the temperature of health and of disease, fever, chronic fever, dropsy; followed by an exposition of the uses of various adjuvants to the pharmacopœia, such as baths, cold, warm, hot, shower, douche, and sponge; the Turkish bath; poultices; enemata, etc.

The whole forms a very complete treatise upon therapeutics, and, barring the imperfections of arrangement, is worthy of the highest commendation.

SOCIETY PROCEEDINGS.

AMERICAN OTOLOGICAL SOCIETY.

Seventeenth Annual Meeting, held at the Grand Hotel, Catskill Mountains, July 15, 1884.

(Specially reported for THE MEDICAL NEWS.)

THE annual meeting of the American Otological Society was held at the Grand Hotel, Catskill Mountains, N. Y., on Tuesday, July 15, at 10.30 A. M. In the absence of the PRESIDENT, DR. C. H. BURNETT, of Philadelphia, the VICE-PRESIDENT, DR. J. S. PROUT, occupied the Chair.

Twenty-three members were present at the meeting, and three new members were elected.

After the usual routine business, the papers on the bulletin presented by the Business Committee were taken up in the following order.

DR. H. KNAPP, of New York, presented a paper on

THE INDICATIONS FOR OPENING THE MASTOID PROCESS, BASED ON SOME RECENT OBSERVATIONS.

The writer referred to the discussion on the same subject at the meeting of the Society the preceding year, which went to show a greater amount of diversity of opinion among the members than the accumulated experience seemed to warrant. On the part of a majority of the members, more scepticism than confidence was exhibited. He was at first himself disinclined to operate when there were no external symptoms of suppuration in the mastoid, or when in acute otitis media there was free discharge of healthy pus through the external meatus. At present, however, he had not only changed his opinion on these two points, but he considered the operation indicated in certain cases in which the membrana tympani is intact, and no suppuration or fluid is expected in the tympanic cavity and the mastoid cells. These are the cases of sclerosing or condensing mastoiditis. (Buck.) He distinguishes, therefore, the indications for opening the mastoid, each of which is illustrated by a case.

Case I. Acute tympano-mastoiditis; no relief by paracentesis of the membrana tympani and by free discharge. Rapid cure by opening the mastoid, and liberating a great quantity of pus.—In this case, an acute otitis media set in after taking cold, and persisted for several days, notwithstanding energetic treatment. On the eleventh day, the bulging membrana tympani was incised, and a liberal discharge of pus took place. Yet the pain continued, and settled gradually more in the left side of the head, up to the median line. Discharge from the ear unabated, but the post-aural region became swollen and tender on pressure. No ophthalmoscopic abnormality. About five weeks after the beginning of the disease, he opened the mastoid with a chisel. The outer layers of bone were healthy, but the bone became more vascular the deeper he penetrated. At last, when he had reached about one centimetre, he struck thick, creamy, inoffensive pus, which flowed off quite freely after the opening was enlarged. The wound was cleansed, and a silver tube inserted. Relief was immediate, and recovery rapid.

Dr. Knapp stated that in this case the suppuration was evidently more pronounced in the mastoid than in the tympanum, and the swelling of the mucous membrane at the posterior wall of the tympanum prevented a free escape of the matter produced within the cells of the mastoid process. Such cases can get well, without operation, even when the symptoms may be graver than in the one just presented, as is evident from some well-known cases in literature. But the duration of these cases generally extends over many months, and in many cases recovery is not attained before a spontaneous opening occurs. In some cases, a lethal termination takes place, which might have been avoided by the operation. When, therefore, in spite of perforation or paracentesis of the membrana tympani, and more or less free discharge, the cerebral symptoms, and in particular constant headache, radiating from the mastoid over the side and back of the head, continued unabated for some time, he believed the operation to be indicated.

Case II. Chronic suppurative tympano-mastoiditis; no external abnormity; chronic half-sided headache; opening of mastoid, liberating puriform secretion; relief.—In this case, there was otorrhœa on the right side for twelve years. There also was a complaint of constant pains in the right side of the head, lasting all the forenoon, diminishing somewhat in the afternoon, and frequently most intense at night. Osseous portion of the external meatus narrowed by bulging of its posterior upper wall. Membrana tympani not recognizable in its details. Mastoid region healthy, and not tender to the touch. No discharge from the ear for three weeks, and during that time increase of the pain. With the reappearance of the discharge, the headache was slightly relieved. The granulations at the bottom of the canal were treated with alcohol, and considerable improvement was obtained. The bulging at the posterior upper wall of the canal appeared to be a mamillary exostosis. During the winter, there was an occasional return of the discharge, and the headache was very intense. Swelling in the posterior wall of the canal hard, and tender when touched with a probe. Notwithstanding the normal appearance of the mastoid, a diagnosis was made of chronic muco-purulent tympano-mastoiditis tending to sclerosing, and the operation was decided on. Two centimetres of nearly compact bone had to be gone through before a small cavity was reached, from which a few drops of secretion, more sero-mucous than purulent, escaped. During the progress of the operation, his diagnosis of sclerosing mastoiditis became verified, as the outer layers were very compact and pale, the deeper layers more and more hyperæmic. Relief from pain was almost immediate, and, although the wound is still open and treatment still continued, recovery is surely progressing.

In this case, only a small quantity of fluid was found; no cheesy masses, no granulation-tissue, no sequestra. Yet the perforation of the compact bone produced a freedom from pain which it was impossible to obtain by any other means. The experience of every one who has performed the operation many times shows these cases, in which one has penetrated deeply in the compact bone, so deeply, in fact, that one is obliged to desist without evacuation of any secretion, or even without penetrating any cavity at all, relief was afforded, and this was attributed to a so-called "revulsive" action of the operation, whatever that might be.

Case III.—In his third case, one of sclerosing mastoiditis, with intact membrana tympani, he performed the operation intentionally for this purpose. There were constant cerebral symptoms. The mastoid on the affected side was larger than on the other side, and the integument swollen and red, while the ear-canal was narrowed by a bulging of the walls. Mastoid process tender to the touch, especially at posterior margin. Membrana tympani white, opaque; handle and folds visible; cone of light absent. The operation was undertaken with the understanding that no purulent secretion should be found; at most, only sero-mucous or serous, but more probably no discharge at all; and so it proved during the operation. The mastoid cavity was reached, and explored with a probe. There was free bleeding, but no secretion. Capillary pulsation was very marked. The headache and dizziness were immediately relieved, and the patient made a rapid recovery.

Dr. Knapp further went on to describe his method of operation. When there is no place of peculiar swelling or softness, he chooses for his incision the little place known as Desmarres's pit, a little depression behind the upper level of the meatus. To keep the lips of the wound open, he uses Desmarres's rakes for the obliteration of the lachrymal sac. Of late years, he uses the chisel for the perforation. Two sizes of chisels were shown. They are smaller than commonly advised by authors. An oblong wound is made in the bone with the longest diameter in the vertical direction, and the direction of the force of the chisel is from above downwards, and from down upwards, rarely lateral. The direction of the wound-canal is parallel to that of the ear-canal, Removal of splinters is easily made by the chisel itself. For absorption, he uses fine sponges, and not absorbent cotton. If he wants the wound to heal by first intention, he applies sutures. In acute suppurative otitis, in which the evacuation of pus is sometimes sufficient to cause a speedy recovery, he simply covers the wound with absorbent cotton, waiting to be guided in the further treatment by the course of the disease. When there is old suppuration, or when profuse suppuration sets in a few days after the operation, he syringes the mastoid cavity, and inserts a perforated silver tube, and keeps this treatment up until the discharge has ceased.

DR. J. A. LIPPINCOTT, of Pittsburg, Pa., presented

A CASE OF MASTOIDITIS INTERNA CHRONICA WITH SCLEROSIS; TREPHINING; RECOVERY.

His patient was a young lady of nineteen, who in March, 1883, complained of pain in the right ear, not constant and of moderate severity, but which had lasted for several months. There was impacted cerumen, and after its removal the external canal and the membrana tympani exhibited rather more than the usual degree of redness and irritation, and the hearing was but slightly improved. Tubes not patent on either side. She appeared again in April, five weeks after the first visit, complaining of intense pain, referred partly to the region of the middle ear and partly to the mastoid, occasionally shooting over the whole side of the head. The mastoid region was swollen and sensitive, but not discolored. External meatus swollen, otherwise healthy looking. Membrana tympani free from congestion, but light cone absent. Moderate febrile disturbance. Leeches and poultices were advised with the administration of the mild chloride internally, and aconite. Under this treatment the swelling rapidly subsided. After eleven days it returned, also swelling and sensitiveness in the mastoid region. And this continued for about a year after his first examination of the case, never showing any other cerebral symptoms but the pain, which was always now referred to the mastoid region alone. He then obtained the patient's consent to the operation, which was begun with the conical trephine, but on account of the extreme density of the osseous tissue, the trephine was soon abandoned for Buck's drill. The drilling was continued to a depth of 17 mm., and then he desisted, although no cavity had as yet been reached. The operation was entirely successful with regard to the removal of the pain, which greatly diminished immediately after the operation, gradually left her entirely, and the wound healed kindly. When Dr. Lippincott saw his patient, one week ago, she declared herself perfectly well.

Dr. A. H. Buck stated that when he received the call for the meeting he found that the subject of mastoid disease was well taken care of, and he, therefore, had abandoned his idea of writing a paper, but would confine himself to making a few remarks. He said he had noticed one point of practical interest. He drew the inference from some remarks in Dr. Knapp's paper that he tried to procure union by first instance. One of the beneficial effects of the operation was the subsequent irritation and drainage from that region, and he, therefore, prevents closing for a period of days. He keeps up a certain amount of surface irritation, which does the patient no harm, but acts as a counter-irritant.

Dr. C. J. Kipp, of Newark, N. J., stated that he sometimes met cases in which a necrosed spot showed in the bone, and he selected such a place for his operation. By advancing carefully he would often encounter a sinus, which led directly to the cavity.

Dr. S. Theobald, of Baltimore, spoke of the beneficial results which might follow in these cases if more stress were laid upon constitutional treatment, especially that with mercury.

Dr. S. Sexton, of New York, showed some illustrations of cases of mastoid diseases that recovered without operation. He believes that, if needed, nature always has provided a place for making an incision. In a very large number of cases he has met only one death from meningitis. His experience leads him to believe that the mastoid cells were generally invaded to a greater or less extent in every case of suppurative otitis media, and that we cannot rely upon pain in the mastoid as the only guide. He reported a case of death from abscess of the brain, where he did not think an operation on the mastoid would have helped. Not mastoid disease, but neuralgia causes the meningitis. There is generally found a place in the external auditory canal which points, and a free opening on that place gives exit to the pus and relief from the mastoid symptoms. In many cases of evident mastoid inflammation he has performed paracentesis of the membrana tympani, gave calcium sulphide internally, and advised outdoor exercise and nutritious diet, and his patient got well. Pain he relieved by quite small doses of aconite tinct. He has not felt satisfied with the indications for opening the mastoid as given at present, and would perforate if he had the certainty of finding pus, not otherwise. He asked what Dr. Knapp meant by capillary pulsation.

Dr. S. J. Jones, of Chicago, thought that if there is tenderness, redness, or swelling, the only doubt that could be raised was whether the inflammation were periosteal or deeper seated.

Dr. W. W. Seely, of Cincinnati, thought that Dr. Knapp misinterpreted the feeling of the Society in the discussion of last year. He only believed that it was difficult to formulate general terms when to operate: he could not find what indications might be of service to him, and he reported a case in which he thought operation was certainly indicated, and he prepared himself for it, but postponed, and gave the patient a dose of twenty grains of quinine, and he got well. He laid stress on the importance of local applications, especially great heat.

Dr. J. A. Andrews saw a boy who had been suffering from purulent middle ear disease for eighteen months. On his third visit found the boy restless, and made an ophthalmoscopic examination. Detected swelling of the disk, and upon this ground, with no indications in the external meatus and no redness over the mastoid, he perforated the bone, and found little pus and much broken-down tissue. A few weeks later he removed a sequestra.

Dr. Sexton asked what conditions of the mastoid cells would lead to optic neuritis.

Dr. Thos. R. Pooley reported a case in which the mastoid had been perforated, and in which no optic neuritis was found before the operation. It developed, however, after the operation.

Dr. Kipp had seen cases of death from mastoid disease, in which no optic neuritis was found. In answer to Dr. Sexton's question, he said we must assume that the optic neuritis is caused either by inflammation of the dura or of the cerebrum itself.

Dr. A. Mathewson, of Brooklyn, had not seen such decided results as to encourage him in taking so much risk. He has a specimen in which the lateral sinus was so deep that it must have been entered in operation.

Dr. B. E. Fryer called the attention of the members to the necessity and advantage of an early operation before the patient's constitution has run down, so as to prevent pyæmia, which is apt to follow operations on bone. He thought the optic neuritis a symptom of pyæmic poisoning.

Dr. Sexton believed that optic neuritis comes from meningitis, and this from mastoiditis, hence the operation, when undertaken on account of the appearance of optic neuritis. would anyhow be too late.

Dr. Kipp answered that cases get cured after operation.

Dr. Knapp said that by operation both the meningitis and mastoiditis may be cured. Whenever cerebral symptoms exist or increase he would operate. If the case improves and pain becomes less, he would let well enough alone. Optic neuritis certainly comes from meningitis, induced by mastoiditis, and the removal of this cause becomes a vital question.

Dr. A. Alt stated that even hyperæmia of the mininges may cause optic neuritis, and therefore operation will be beneficial by removing the cause.

Dr. A. H. Buck stated the following plan of proceeding: He divides cases of suspected mastoid disease into such as were formerly well, and those in which purulent discharge from the ears occurred. If there had been purulent trouble for years, sclerosis of the mastoid cells might be assumed to exist. There will not be redness or tenderness, nor swollen glands, yet there may be serious disease which demands operation. A second question is, whether the seat of purulent disease be provided with free exit. If so, operation would not be necessary. In acute cases he would freely operate, because he considers it good surgery, and his experience has given very favorable results; however, this point might be discussed. He questioned especially the condition of the tympanic cavity. If the outlet is adequate, we can try different things, and when they fail, open the mastoid. We will never be able to state whether we will find matter or simple congestion, but it always remains good surgery. If we do not find matter, the operation will do good by counter-irritation; if there is matter, then by its removal.

DR. KNAPP answered a question raised by Dr. Buck at the beginning of the discussion, with regard to procuring union by first intention, that he referred to cases of non-suppurative mastoiditis, when the cranium was entered. To Dr. Sexton's question about capillary pulsation, he says it is the same pulsation which is found in every inflamed part. The pulsation by which we may discover a small perforation in the drum-membrane is capillary pulsation, not from the carotid. He defines his indication for operation, constant pain radiating over the head, originating in or around the ear, more or less distress by overwork. Twice he operated for this symptom only. Besides there were the usual symptoms and histories of middle ear disease.

DR. A. H. BUCK, of New York, read a paper entitled

REMARKS ON THE USE OF LARGE DOSES OF IODIDE OF SODIUM OR IODIDE OF POTASSIUM IN CASES OF RAPID LOSS OF HEARING, SUPPOSED TO BE DUE TO SYPHILITIC DISEASE.

After referring to some cases reported by Roosa and Webster, and in which benefit had been derived from anti-syphilitic treatment, he described a number of cases treated by himself with large doses of iodide of potassium and of sodium. In the majority of these cases no improvement had followed, while in one or two there had been slight temporary benefit. He asked if the doses of iodide should be pushed to a still higher point (525 grains per day in one case), or should it be continued for a longer time.

DR. POOLEY had seen very few cases—only five or six—but found in his records only one case which apparently improved by treatment with iodide of potassium and iodide of mercury. There had been iritis three or four years ago. He made an unfavorable prognosis, but when he saw the patient again, six weeks later, his hearing had considerably improved. He referred to one case in which large doses of potass. hydriod. had induced intense coryza and acute angina and acute otitis with perforation, finally changing to a prolonged attack of otitis media purulenta.

DR. KNAPP mentioned three cases in which the result was completely negative.

DR. SEXTON had seen fifteen or twenty cases. The deafness in some of these cases, he thinks, resembles that of cerebro-spinal meningitis. He believes that the tolerance of the system to potass. hydriod. depends very much on the mode of administration. In cases in which benefit was derived, one would not be justified in attributing this to the very large doses; he believes smaller doses would have done the same.

DR. BUCK stated that if, after three weeks of moderate use no improvement follows, he believes it will be of no avail to push the doses much further.

DR. ANDREWS reported a case in which two drachm doses for three times a day had improved both sight and hearing. He has seen a number of sailors who were totally deaf, but never saw any improvement even with ounce doses of potass. hydriod.

DR. BUCK said that he is inclined to believe that the nature of the disease is a gummatous tumor. Such a tumor in another part of the brain may be absorbed, and the symptoms of pressure removed. In the labyrinth, however, pressure would destroy Corti's organ, and yet the gumma might undergo absorption, but the patient would remain deaf.

The Business Committee at this time proposed an adjournment till 8 P.M.

EVENING SESSION.

After reading of the records of the first session, the Secretary gave notice of a request, received from Prof. F. D. Clarke, of the New York Institution for Deaf-Mutes, a member of a committee appointed by the National Convention of Articulation Teachers, to confer with the Society with regard to the improvement of hearing in deaf-mutes where a certain amount of hearing still exists. Prof. Clarke was introduced to the Society, and requested to be present at the reading and discussion of the papers to be read.

DR. W. W. SEELY, of Cincinnati, read a paper on

THE JEQUIRITY TREATMENT OF SUPPURATIVE OTITIS MEDIA.

Considering the effect of jequirity on trachoma, he believes that although there are a large number of cases in which cleanliness, maintaining of patulency of the Eustachian tubes, and getting the nasopharynx in a healthy state are all sufficient, there are cases in which the mucous membrane of the tympanic cavity gets into a state that can practically only end by its becoming changed into cicatricial tissue, like the conjunctiva in trachoma, and that jequirity can be applied with benefit in such cases of middle-ear disease. He has used it both in hospital and private practice with a fair proportion of good results. The solution is simply put in the ear by means of probe and cotton, and a few drops further poured in. There always results profuse discharge, and sometimes a good deal of pain.

DR. THEOBALD inquired what was the strength of the solution.

DR. SEELY replied the same strength as is applied to the eye—a saturated solution.

DR. POOLEY said that Dr. Brandeis had reported one case in which very alarming symptoms occurred by producing inflammation of the throat, with which the medicine had come in contact.

DR. KNAPP thought that there might be less danger of the application to the ear than to the eye.

DR. SEELY said that the local reaction in his cases was very strong.

DR. J. J. B. VERMYNE, of New Bedford, read a paper on

DISEASE OF THE ETHMOID, THE CONSEQUENCE OF CHRONIC CATARRH OF THE NASOPHARYNX; EXOPHTHALMOS.

He stated that the case came under his treatment for the most prominent symptom, the protrusion of the eyeball, but since Dr. Knapp, in the April number of the present volume of the *Archives of Otology*, had reported a similar case, and diseases of the nasopharynx were a most important cause of ear-disease, and as such came under the treatment of otologists, he would report it before the Otological Society. In this case there was a tumor, the size of half a hazel-nut, stretching from the upper, inner corner of the eye, of bony hardness, slightly nodular, immovable, and intimately connected with the os planum. The right eye is slightly pushed forwards and outwards. There is no interference with the motion of the muscles or with the vision. Ophthalmoscope shows disk slightly raised and vessels distended.

There is a history of chronic nasopharyngeal catarrh during eleven years, and of an occasional temporary appearance of the eye as if it was pushed forwards. The case was believed to be either exostosis of the os planum or retention tumor of the ethmoid. Two cases reported by Dr. Knapp are referred to, in which removal was followed by recovery in one, by death in the second case. In view of the history of this second case, the writer believes that operation in such cases is not justifiable to the extent advocated by Dr. Knapp in his first case.

DR. KNAPP said that in these cases there mostly was polypus in the frontal sinus, even some degeneration.

DR. KIPP spoke of a case in which the nasal, ethmoid, and sphenoid cavity were all reduced to one cavity. He also made mention of a case in which the patient was relieved by pressure only. The discharge was pus. The pressure was applied by the fingers. He further used nitrate of silver spray on the Schneiderian membrane.

DR. J. J. B. VERMYNE also presented a paper on

MYXOFIBROMA AT THE BASIS CRANII, CAUSING BLINDNESS, AND, SEVEN YEARS AFTER, COMPLETE DEAFNESS BY DESTRUCTION OF THE LABYRINTH.

This case was first seen in January, 1876, when there was a complaint of fatigue of the eye and occasional dimness of vision; sight somewhat decreased; congested papillæ and retinal vessels, but no other complaints whatever. Three months later intense headache and optic neuritis led to the diagnosis of cerebral tumor. A slight improvement was obtained, but on the writer expressing an opinion with regard to the nature of the case and the unreliability of the relief obtained, the case passed out of his hands. It was seen again five years later, when there were secondary atrophy and entire loss of perception of light; and again, in 1883, when she had become suddenly deaf. Six weeks after, hearing returned, continued good for about six months, and then disappeared. Patient died May, 1884. Autopsy revealed a tumor 6 cm. long, 4 cm. wide, and 2 cm. thick in the left inferior occipital fossa, which had compressed the left cerebellum to one third its normal size. Brain and cerebellum both anæmic, the latter of increased consistency; much fluid in the ventricles. The most recent part of the growth had impinged upon the petrous part of the left temporal bone, causing entire destruction of the bone between the posterior wall and the tympanic cavity, which lies open. Membrana tympani entirely intact. The tumor was myxofibroma.

DR. C. J. KIPP, of Newark, N. J., read a paper on

TUMORS OF THE AURICLE.

He reported a case of epithelioma of the auricle in a healthy boy of nineteen, which appeared one week before the case came under observation. The concha was the seat of a small fleshy growth with granular surface. On the upper part of the auricle there were several boils, and below the ear was an enlarged gland. The hearing was not impaired. The diagnosis of granuloma was made and its removal advised. This was done, the whole growth being thoroughly removed with a sharp spoon. The wound healed completely in about a week. At this time a furuncle developed in the external canal and others appeared under the ear. Since then the patient has not been seen. Microscopic examination of the growth showed it to be made up largely of epithelial cylinders. The stroma was very vascular.

He also demonstrated a specimen of cavernous fibrolipoma removed from the upper part of the auricle of a man of thirty-five. The growth existed several years, but had grown much lately, only one month before he saw the case. The tumor was about the size of a hickory nut and was removed by excision. There was very little hemorrhage, and the wound healed kindly. Microscopically, the tumor was found to be lipoma, with considerable fibrous tissue between the lobules, and these had undergone cavernous metamorphosis. Growths of this kind are believed the only found in this locality. He also showed a large atheromatous tumor, which he had removed from the helix of the auricle.

DR. L. HOWE, of Buffalo, N. Y., then read a paper on

HÆMATOMA AURIS IN A SANE PERSON, TREATED WITH INJECTIONS OF ERGOT.

The patient, twenty-eight years old, was of excellent general physical condition. Mental development fair, but could not be called very intelligent, and six years ago had occasional attacks of dizziness. Four years ago a swelling occurred on the left ear, and continued to increase in size so rapidly that in a week or two it had attained its present size. Meatus closed by swelling and hearing greatly impaired, but no pain. About a month ago a similar tumefaction occurred on the other ear. The tumor on the left side filled almost the entire cavity of the concha; tragus and antitragus about double the thickness of those of the other ear. Skin slightly darker, and could be freely moved, and on firm pressure the tumor yielded perceptibly. The appearance of both ears was illustrated by plaster casts. It was treated by injection of two minims of the fluid extract of ergot. It produced considerable pain, and at first there was some tendency to sloughing. In about a week the injection was repeated, the dose increased to four minims, and subsequently alternately at intervals of eight or ten days for nearly two months. The tumor slowly decreased in size to nearly one-half its former size.

DR. SEXTON showed some photographic illustrations of hæmatoma auris. He stated that it is not confined to the insane, but he has seen it very often in pugilists from so-called cross-counter on the left side. In the insane he thinks it is also due to trauma. He used to try injections of tinct. iodide, but it never did any good. In mild cases he aspirates; in case of large clot he uses an incision.

Dr. Pooley remarked that in the Epileptic Hospital in New York he had seen one case of double hæmatoma auris and detachment of the retina in both eyes, brought on by the patient.

Dr. O. F. Wadsworth, of Boston, present by invitation, said that, according to Virchow, the statues of Greek boxers have their ears deformed, as if suffering from hæmatomas.

Dr. Sexton further showed some cases of sarcoma of the concha, some cases of malformation, external fistula auris, malformation with unilateral atrophy of the face, nævus, malformation of the auricular cartilage, and torticollis consecutive to otitis media purulenta, all by photographic illustrations.

He also made some verbal remarks on the influence of dental irritation on the ear, and showed a new instrument for the removal of tonsils. Further, a few observations on the use of peroxide of hydrogen in ear diseases.

A paper was then read by Dr. Charles A. Todd, of St. Louis, Mo., on

NECROSIS OF RIGHT LABYRINTH; TOTAL FACIAL PARALYSIS ON THE SAME SIDE; PARTIAL CURE.

The case was that of a female, aged nineteen. At four years had measles, followed by discharge from both ears, persisting up to the time of her appearance at the clinic, that is, for fourteen years. Under treatment improved, but afterwards neglected the case, which caused frequent relapses. Under the dry method the condition was greatly improved. In 1882, deep-seated mastoid pain, but no swelling or redness over the mastoid. This subsided under treatment, but there was manifest complete paralysis of the right side of the face. Dead bone was felt at the bottom of the meatus amidst abundant granulations. A first attempt to remove the sequestrum failed on account of its being still fixed; but a second attempt was successful, and then the granulations gradually disappeared. There was complete loss of taste in the territory of the chorda tympani. Later, a gradual improvement took place.

The President, Dr. Charles H. Burnett, of Philadelphia, forwarded a paper on

REFLEX AURAL PHENOMENA FROM NASOPHARYNGEAL CATARRH; OBJECTIVE AND SUBJECTIVE NOISES.

(See page 88.)

Prof. F. D. Clarke read a short paper, setting forth the opinion of educators in deaf-mute institutions that a large percentage of pupils in the schools are still possessed of a certain amount of hearing, and asking the Society if they believed this remnant of hearing might be increased by education, and requesting their coöperation in this matter. He also explained a new instrument, invented by Prof. Graham Bell, for testing the hearing power. The instrument itself was not yet ready for exhibition or experimentation.

Dr. Sexton did not believe it possible to increase the power of hearing.

The discussion was further participated in by Drs. Jones and Loring, who took rather opposite views with regard to the reliability of the causes of deaf-mutism, as given by the parents.

On motion of Dr. Howe, it was decided that the subject should receive official recognition by referring it to a committee of three, of which the President shall be one member, he to select the two other members.

Dr. Theobald exhibited some improvements in the nose-piece of Politzer's douche, and Dr. Andrews and Dr. Sexton improved instruments for applying powders to the ear.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. Charles H. Burnett, of Philadelphia.

Vice-President.—Dr. J. S. Prout, of Brooklyn.

Secretary-Treasurer.—Dr. J. J. B. Vermyne, of New Bedford.

Committee on Publication.—Drs. J. J. B. Vermyne, C. J. Blake, and J. O. Green.

Committee on Membership.—Drs. J. Green, H. G. Miller, and H. D. Noyes.

It was voted that the Society should meet next year at the same place as, and on the day preceding the meeting of the American Ophthalmological Society.

Adjourned.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twentieth Annual Meeting, held at Grand Hotel, Catskill Mountains, July 16 and 17, 1884.

(Specially reported for The Medical News.)

Wednesday, July 16th—First Day.

Morning Session.

The Society was called to order by the Vice-President, Dr. Wm. F. Norris, of Philadelphia.

The Treasurer's Report was received and referred to an Auditing Committee.

Dr. Richard H. Derby tendered his resignation as Secretary, which was accepted, and Dr. O. F. Wadsworth, of Boston, was elected to fill the vacancy.

Drs. Sutphin, of Newark; Parrot, of Brooklyn, and Andrews, of Philadelphia, were invited to take part in the deliberations of the Society.

Dr. Hasket Derby, of Boston, read a paper on

IRIDECTOMY IN CHRONIC IRITIS.

After briefly considering the literature of the subject, the question was asked, Does iridectomy cure or ward off the disease? Instances of the performance of the operation under such circumstances are so rare that the report of a single case has its value:

Miss D., aged sixty, was seen November 13, 1880, complaining of "cold" in the left eye; this had lasted three weeks. It was characterized mainly by redness and dimness of vision; there was little pain. There was much ciliary injection, and numerous posterior synechiæ were found. Under atropine, a shade and rest, the synechiæ were broken up, and in five days the eye was as well as ever. November 18th, a similar attack appeared in the other eye; this disappeared under similar treatment. On the 29th, the first eye was again attacked. A course of salicylic acid was now commenced. December 8th, there was a slight relapse in the right eye, and a severe attack immediately afterwards. Iodide of potassium was then administered. On the 11th, there was much improvement. Ophthalmoscopic examination showed both fundi to be normal. Iron was given in alternation with the iodide. Between January 1 and June 3, 1881, there were nineteen attacks in the right eye and fourteen in the left. Various plans of treatment were employed, but with no benefit. June 23, 1881, atropine was begun and applied daily until July 6th. There were no attacks during this time. On its suspension, a severe attack appeared in the right eye. The atropine was then ordered three times a week for two months. Under this treatment there were no attacks. When this was discontinued an attack occurred. Subsequently she went to Europe and consulted a physician, who diagnosticated glaucoma, and performed iridectomy on both eyes.

Gradually the attacks ceased, although slight redness occasionally occurred. . It was considered, however, that the improvement was not due to the operation, but was dependent on the fact that the malady had worn itself out. He did not think that iridectomy would be justified in another similar case.

Dr. H. Knapp referred to the fact that in many instances recurrent iritis ceases spontaneously after continuing for many years. He restricts the operation of iridectomy to those cases in which, besides iritis, there is a tendency to cyclitis and glaucoma. Where the condition is one of genuine iritis with limited adhesions, and a part of the pupil moves freely, he does not perform iridectomy.

Dr. Charles S. Bull, of New York, presented a paper entitled

CASES OF RESTORATION OF THE EYELID, BY TRANSPLANTATION OF FLAP WITHOUT A PEDICLE, BY WOLFE'S METHOD.

He described three cases, in two of which the upper lid, and in the third the lower lid, was greatly everted. In all the method of operation was similar, and consisted in first loosening the adhesions and freshening the surface of the affected lid. A flap was then taken from another part of the body, in two instances from the forearm, and in the third from the chest, and, after being carefully freed from fat and subcutaneous tissue, was applied to the denuded surface, and, if necessary, confined in position with sutures. The part was then covered with gold-beaters' skin, over which several layers of iodoform gauze were placed, and the whole confined in position with a compress of borated cotton and a roller bandage. The dressings were not removed for three or four days, after which time the wound was dressed every day or every other day. In the third case, in which the lower lid was operated on, the epidermal layer of the flap sloughed, but the result was very satisfactory. In the other two cases no trouble was experienced, and great improvement was effected.

The next paper read was by B. E. Fryer, M.D., U. S. Army, and was entitled

A SUCCESSFUL CASE OF SKIN TRANSPLANTATION WITHOUT PEDICLE TO THE LOWER LID AFTER REMOVAL OF AN EPITHELIOMA.

Successful cases of transplantation of skin flaps from distant parts without pedicle have perhaps been sufficiently numerous to give the operation a permanent place both in ophthalmic and general surgery. Later operators have not followed the plan of Wolfe, the originator of the procedure, but have sought more especially for a simpler dressing than he employed.

The following case is reported: Mrs. E. P., aged forty-one, not of strong constitution and not in good health, had suffered from epithelioma of the left lower eyelid and a part of the adjoining cheek. The growth extended from one-fourth of an inch from the inner canthus to a short distance beyond the external angle. It involved the tissue of the lid to within 2½ mm. of the cilia and in one portion included the site of the cilia. Its breadth was about half an inch. The disease had lasted one year when the case came under observation (March 20, 1884). The growth was steadily extending. On March 27 the epithelioma was removed by excision. A few small arteries were twisted, and the eyelids then were brought together by two fine silk sutures. This left a crescent-shaped wound one and a quarter inches long and three-quarters of an inch at its greatest breadth. Laying out a flap on the left forearm, nearly twice the size of the wound, but leaving one portion uncut, the flap was turned on itself and all the subcutaneous tissue and fat removed with scissors. The uncut portion was next divided and the graft placed on the wound and moulded into position with gentle pressure. A layer of gold-beater's skin plaster was applied and pressed into the hollows and irregularities of surface, pressure being made with a compress of absorbent cotton which had been dipped into water at a temperature of 100°. The plaster extended an inch above and below the eye and half an inch laterally. A second layer of plaster was then applied. It was then found that the plaster held the flap in position and the edges in apposition with those of the wound, which is a point of great importance. As the plaster became dry it made a firm dressing, holding the parts in a splint, as it were. As the patient was exposed to cold shortly after the operation, a dressing of absorbent cotton was applied over the plaster, but this was removed when the patient reached her home. On the seventh day after the operation, a portion of the plaster and the stitches holding the lids together were removed, and perfect union found. On the eighth day all the plaster was removed. At the present time, three months after the operation, the graft closely resembles the surrounding skin, and there has been but slight contraction.

Dr. Richard H. Derby, of New York, described a case of

GANGRENE OF THE LID, WITH SUBSEQUENT RESTORATION OF TISSUE, WITHOUT PLASTIC OPERATION.

Two weeks before coming under observation, in November, 1883, the patient noticed beneath the lower lid a small black discoloration. The following morning, the whole side of the face was swollen and the eye closed. When seen, there was a sharply defined black surface, corresponding to the anterior margin of the orbit, in a condition of slough. There was a clear line of demarcation. The patient was lost sight of for four weeks. He returned with a deep cicatrix at the margin of the orbit, the skin having restored itself. The eyebrow was drawn down one-quarter of an inch. There was incomplete eversion of the lower lid, but the eyeball was intact. The patient had incomplete control of the upper lid.

These papers were discussed by Drs. Pooley, Prout, Harlan, Little, Howe, Andrews, Lippincott, Fryer, Green, and Wadsworth.

DR. GEORGE C. HARLAN, of Philadelphia, described a case of

HYSTERICAL MONOCULAR BLINDNESS, WITH MYDRIASIS AND BLEPHAROSPASM.

It was found that the patient was always relieved by the application of a Charcot magnet. The attempt was then made with a piece of wood shaped to imitate the real magnet. The experiment was entirely successful, the imitation acting even more powerfully than the real magnet.

DR. H. KNAPP, of New York, read a paper

ON NEURO-RETINITIS, WITH FULMINANT BLINDNESS.

Two cases were reported. The first was that of a gentleman aged forty, strong, healthy, and temperate, and without any constitutional disorder. On May 5, 1883, he had intense headache and nausea. In the evening, the sight became dim. He slept well during the night, but on awakening the next morning found that he was totally blind in both eyes. Dr. Knapp saw him, in consultation, the same afternoon. The general condition was excellent, and the patient was free from pain. There was no abnormity, with the exception of suppression of urine. Half an ounce was removed with the catheter. The pupil was widely dilated, and irresponsive to light. There was no perception of light. The mobility was normal. The media were clear, but in both eyes there were well-marked choked disks. The retinal veins were large and tortuous; the arteries small, and did not pulsate under pressure. There was no hemorrhage, and no white spots in the fundus. The attack was attributed to uræmia, although the examination of the urine gave negative results. He was ordered salicylate of soda, in sixty-centigramme capsules, every quarter of an hour, until profuse perspiration should occur, and this was to be kept up by the use of hot drinks for two hours. The condition continued about the same. On the fifth day, the arteries appeared to be a little fuller, but did not pulsate on pressure. Iodide of potassium and calomel were then ordered. Shortly afterwards, hypodermatic injections of strychnia and electricity were added. The case was seen in consultation by a number of prominent physicians, and it was agreed that the most probable explanation was uræmia. During the next two weeks, the amount of urine increased, and the disks became paler. Later, there were some pain and tingling in the left hand and leg.

Fifty-five days after the occurrence of the blindness, the patient said that he could see a little, but this could not be verified. Iodide of potassium in large doses was ordered. A recent examination showed that the patient could see objects held in a certain position. These could be best seen when held some distance from the eye. He could read Snellen 50 at a distance of two feet, and could correctly indicate playing-cards when held in the proper position. He could, however, not indicate the position of the window, but when turned towards the light could tell whether or not the eye was shaded. Dr. Knapp thought that the probable explanation of this case was some cerebro-spinal lesion, or some abnormality around the frontal lobes near the chiasm. There had been no other symptoms of Bright's disease.

The second case was that of a girl aged eleven and a half years, who was seen April, 1884. Two days previously there had been spells of loss of vision. At three P. M., she had blindness in the left eye. She slept well that night, but the next morning was totally blind in the left eye. In the right eye she could only see objects in the lower half of the visual field. By noon the right eye had also become blind. The following day both pupils were immovable, and both disks were swollen, the arteries small, the veins large but readily emptied by external pressure, which caused the arteries to pulsate. The urine was examined and found to be normal. The child was sent to a hospital, and profuse perspiration induced by salicylate of sodium, and calomel was given. The next day the condition was unchanged, but there had been profuse diarrhœa—twenty-four stools in twenty-four hours. The calomel was discontinued. On April 3d there was slight perception of light. From this time improvement was continuous, until in June she was completely well with normal vision. Dr. Knapp thought that there might have been something in the neighborhood of the chiasm or in the cavernous sinus with produced pressure on the optic nerve and caused neuro-retinitis. In this connection a case of exophthalmos from a communication with the cavernous sinus was referred to. The patient had been blind for three months, but as soon as she recovered from the effect of the ether after the carotid had been ligated, she was able to see.

Dr. Knapp thought that in the second case the treatment had something to do with the good result. If there had been serous exudation in the neighborhood of the chiasm, the induction of profuse diarrhœa and diaphoresis would be the best way to remove it.

DR. CHARLES KIPP had been taught to attribute optic neuritis to a cerebral lesion, but he had seen cases in which atrophy followed this affection, and in which the patient lived for a number of years. In one case which had been under observation for fifteen years there had been choked disk, but no other trouble could be discovered. He thought that possibly in some cases there was some other cause for the condition.

DR. KNAPP stated that there might be serious disease of the frontal lobes of the brain for a long time and yet no marked symptoms be presented.

DR. GEORGE C. HARLAN, of Philadelphia, had examined a large number of prtients in blind asylums who exhibited atrophy of the optic nerve, but yet were in excellent health.

DR. A. ALT, of St. Louis, described a case of neuro-retinitis with large hemorrhages, which was thought to be due to the presence of a cerebral tumor. At one time the condition was such that a fatal issue was looked for, but under the use of large doses of iodide of potassium, improvement began and the patient (a girl of eleven years) is now in perfect health. There is atrophy of both optic nerves.

The discussion was continued by Drs. Pooley, Wadsworth, and Andrews.

DR. W. F. NORRIS, of Philadelphia, read a paper

ON HEREDITARY ATROPHY OF THE OPTIC NERVES.

He gave the history of a family of twenty-three persons, thirteen males and nine females, in which fourteen, nine males and five females, suffered from congenital atrophy of the optic nerve. The age of the individuals affected, ranged from seven to twenty-three years. In all, save one, the symptoms came on gradually. In the exception it is said to have come on in the course of four days. All the cases showed central scotomata. The treatment consisted of the use of bichloride of murcury and strychnia. In only one case did the treatment seem to have any influence on the disease. In this instance vision improved from $\frac{6}{60}$ths to $\frac{6}{24}$ths.

DR. NORRIS also described

TWO CASES OF ORBITAL TUMOR,

which he reported on account of their rarity. One was a myxo-sarcoma of the orbit occurring in a child four months old, which was twice removed and at the second removal the actual cautery was applied, but after both operations the growth reappeared.

The second case was one of osteoma of the orbit in a widow thirty-two years of age. In this case it became necessary to remove the eyeball, and the growth which involved the lower portion of the of the orbit was chiselled away. Sight had been lost some time previously. There has been no return of the disease, and the woman is able to wear an artificial eye with comfort.

DR. J. A. ANDREWS read a paper on

JEQUIRITY.

He attributed the disastrous results which had followed the employment of this drug in diseases of the eye to the use of too strong infusions. His plan is to begin with a one per cent. infusion, make one application, and then examine the case after twenty-four hours. The application is then repeated as often as necessary to secure the desired effect. If the drug is used in this way there is no little risk of doing injury. The infusion should be a fresh one.

DR. S. THEOBALD, of Baltimore, referred to the great difference in the susceptibility of different individuals to this drug.

DR. W. F. NORRIS had found that after repeated application the conjunctiva seemed to lose its sensibility to the action of jequirity.

DR. H. S. SCHELL, of Philadelphia, stated that he had used preparations that had been made for a number of weeks with success. These had been preserved by the addition of four grains of boracic acid to the ounce.

DR. O. F. WADSWORTH, of Boston, had preserved the infusion active and free from bacilli by the addition of two per cent. of carbolic acid.

DR. J. S. PROUT, of Brooklyn, had never used jequirity, but he called attention to the fact that some years ago, he had presented to the Society a paper describing the good effects of the application of quinine for the conditions in which jequirity has been found of service.

AFTERNOON SESSION.

DR. A. ALT, of St. Louis, demonstrated a number of *Microscopical Specimens*, and a *New Form of Perimeter*, designed by Dr. E. Dyer, was described by **DR. H. G. MILLER**.

EVENING SESSION.

DR. H. S. SCHELL read a paper on

A CASE OF EMBOLISM OF THE CENTRAL ARTERY OF THE RETINA.

A woman seventy-one years of age, on January 2, 1884, suddenly lost vision in the left eye. This was preceded by a flashing of colors. Examination of the heart showed insufficiency of the mitral valve with hypertrophy of the left ventricle. The ophthalmoscope showed swollen disk and œdema of the central portion of the retina, but no red spot in the macula. In the inferior branch of the artery was a space involving the whole calibre of the artery, which appeared to be empty. After massage, by pressing on the ball, had been practised for some minutes, a current was induced in the vessels, but the blood stream appeared to be broken into sections. The case was treated with iodide of potassium, and after a time chloride of ammonium was substituted for the iodide. The patient was seen a number of times afterwards, and at the last observation the disk had become white and the arteries thread-like.

DR. A. MATHEWSON described

A CASE ILLUSTRATING THE NATURAL HISTORY OF CATARACT.

A naval surgeon was operated on in 1863, and a cataract removed from the left eye, the operation being successful. The left eye was at the same time the seat of a senile cataract. He had been frequently treated during the past twenty years for attacks of iritis, which yielded to atropine. Two years ago he began to see better with the right eye, and on examination it was found that the cataract had disappeared. The lens was found in the anterior portion of the vitreous chamber, just below the ciliary region, and appeared to be fixed in that position. Two years later, he began to have occasional attacks of iritis, which subsided under the use of atropine. Last fall he had an attack which was not relieved by the atropine. He consulted Dr. Mathewson, who found the eye exhibiting the ordinary appearances of glaucoma. In the lower part of the anterior chamber was a large mass, looking as though a portion of the lens had broken off. A two grain solution of eserine reduced the tension, contracted the pupil, and cleared up the sight. There was no return of the pain for some weeks. The eserine gave only partial success, and the suffering was so great that on one occasion a hypodermatic injection of morphia was resorted to. This at once relieved the pain and the glaucomatous symptoms. After some days the condition returned, and morphia soon failed to give relief. The eye was then enucleated. The lens, on examination, was found to be extremely attenuated, hardly 3 mm. in diameter, and as thin as a wafer.

DR. JOHN GREEN, of St. Louis, described three similar cases.

DR. SEELY, of Cincinnati, gave his

EXPERIENCE WITH CERTAIN REFRACTIVE CASES,

alluding in particular to the results of lack of balance of the ocular muscles, and its relation to changes in refraction; the consideration of small amounts of *myopic astigmatism*, with or without blepharitis, with or without asthenopic symptoms; and the state called *mixed astigmatism*. He spoke of the necessity of always calling in question a small amount of myopia, especially of myopic astigmatism, and proceed to determine whether it really exists by paralyzing the muscle of accommodation. Illustrative cases were narrated.

As regards *mixed astigmatism*, he was inclined to think this state is not so frequent as one would be inclined to think; *i. e.*, if all cases of *mixed astigmatism* were thoroughly treated with paralysis of the accommodation, a very large number would be changed into simple *hypermetropic astigmatism*; in a word, the myopic part would be done away with. As regards *the influence of lack of muscle balance on refraction*, he cited, illustrative cases of apparent causative relation existing between insufficiency of the internal recti muscles and spasmodic myopia, which were treated by paralysis and prisms.

In conclusion, he said that his results, since insisting upon, first, a complete knowledge of the refractive state, and, second, of putting the eyes totally at rest for a few days by paralysis, had been infinitely more satisfactory than in former years.

He seemed to think there was some tendency to underrate refractive cases in general, and to practise on too meagre actual knowledge of the refraction, and insisted upon the necessity of paralysis of accommodation in a large proportion of cases, in order to get practical results.

The paper was discussed by Drs. Little, Mittendorf, and Theobald.

A paper entitled

THE CLINICAL HISTORY OF A CASE OF SYMPATHETIC OPHTHALMIA,

by DR. L. WEBSTER FOX, was read by the Secretary.

W. R., received a punctured wound in the inner lower quadrant of the left eyeball, the wound being situated near the cornea. Cold water and a bandage were applied. There was but little inflammation and only slight pain. The boy was allowed to use his eye, until some time later, dimness of vision of the right eye was observed. An ophthalmic surgeon was then consulted, and at once instituted vigorous treatment. The patient was at this time seen by Dr. Fox. There was haziness of the left cornea, the pupil was occluded, and there was perception of light. The iris of the right eye was much thickened and newly formed vessels could be discovered upon it. There was barely qualitative perception of light. There was no pain, but light could not be borne. Treatment with mercurials was begun and under their use the redness and other symptoms of inflammation disappeared, but there was no return of vision. The right eye is atrophied to half its former size, and there is no perception to light. The left eye is becoming atrophic and perception to light is doubtful.

DR. J. A. LIPPINCOTT, of Pittsburg, Pa., read a paper on

TWO CASES OF ORBITAL ABSCESS.

The cases were reported, first, on account of the rare occurrence of retro-ocular abscess; and secondly, because in one case there was complete recovery, and in the other case because of the early age at which the disease developed.

Case I.—In September, 1877, I. D., a rather feeble child, while recovering from erysipelas of the face and scalp, was noticed to have a slight swelling of the right upper eyelid. When the patient was seen, the day following, a small abscess of the lid was found. This was opened, but only a few drops of pus escaped. There was at that time no displacement of the eyeball, nor any loss of mobility, but there were more pain and tenderness than could be accounted for by the abscess in the lid. The patient was feeble, irritable, and emaciated; the pulse was weak and rapid; there were decided anorexia, great thirst, and high temperature. He was taking tonic doses of quinine and iron. After the abscess was opened, a poultice was applied, and the tonic treatment continued; the superficial abscess healed rapidly, but the pain and tenderness seemed slowly to increase, although no marked symptoms of inflammation manifested themselves. The patient was put on the syr. ferri iodidi in fifteen drop doses, every three hours, and the dose of quinine increased to six grains daily.

On the fifth day after the patient was first seen, the eyeball protruded slightly, although the mobility was perfect. Twenty-four hours later, a sudden and rapid increase of the exophthalmos took place, and was accompanied by a marked increase of the symptoms and of the fever. The eyelids were swollen and discolored, and there was almost complete ptosis. The eyeball protruded more than half an inch, was scarcely movable, and its axis was directed strongly downwards and outwards. The cornea was slightly exposed, but its transparency was not affected. There was slight chemosis of the conjunctiva. The pupil was small and feebly responsive. A satisfactory view of the fundus was not attainable, but it was determined that no gross lesion was present. The sight appeared to be unimpaired and diplopia was observed. There were considerable tension and severe pain. Tenderness was especially marked in the upper inner orbital region. With the aid of Dr. McCann, an exploratory incision was made above and a little to the inner side of the globe, and under the upper lid. No pus was found and a second incision was made a little further to the inner side. This revealed the presence of pus. The puncture was converted into a free incision, and about a drachm and a half of thick, foully smelling pus escaped. A great decrease of the tension followed, and there was a slight recession of the globe. After discussion it was decided to dispense with the use of a tent, and a large poultice was applied in such a manner as to produce some pressure. The following day the swelling of the upper lid was greatly intensified, and the conjunctival chemosis increased, but under a supporting treatment and the application of poultices and pressure the swelling subsided and the ball receded. Five weeks after the operation mobility of the globe had fully returned, and the diplopia had completely disappeared. The exophthalmos persisted, gradually diminishing until about one year ago. Two days after operating on the right eye, it became necessary to evacuate an abscess which had formed beneath the left eye. No further treatment was required. A recent examination showed no trace of the disease, except a scarcely perceptible degree of protrusion of the right eye, the fundus being normal and vision $\frac{20}{\text{xx}}$.

Case II.—A. R., scarcely twelve months old, was seen September 14, 1880. Three weeks previously great swelling of the eyelids and chemosis occurred. There was no protrusion of the eye and no purulent discharge. The condition continued about the same for two weeks, when the eyelids became greatly swollen and the ball protruded to fully the extent of its diameter. Pupil widely dilated. This was the condition when seen by Dr. Lippincott. The pain was apparently not very severe. The temperature was 99°. An aspirating needle was introduced under the upper lid, and an abscess containing dark-brown, fetid pus was discovered. This was evacuated by a free incision. A poultice was applied, and quinine and iron prescribed. The day following, the lids were much swollen, but the general condition was improved. A week later it was found necessary to make a second opening, as the first had closed. The pus which now escaped was thick, creamy, and not fetid. A carbolized oil tent was inserted. Two weeks later the opening closed. The poultice was then substituted by a cold compress bandage. Symptoms of irritation appearing, poultices were again applied and continued two weeks. The eye continued to improve, and six weeks later there was only slight protrusion and mobility seemed perfect. It was impossible to determine the vision. The present condition is as follows: exophthalmos about one-sixteenth of an inch, considerable swelling of the lids and partial ptosis. Between the lower lid and the globe is a freely movable, pale, gelatinous-looking, lobulated mass, nearly three-fourths of an inch long and one-fourth of an inch wide. There is occasionally some discharge. The eyeball is perfectly clear and healthy in appearance. Mobility perfect. Pupil normal in size and responsive. Vision limited to light-perception. Media transparent. Disk presents decided white atrophy. Retinal vessels, especially the arteries, much contracted.

DR. CHARLES J. KIPP, of Newark, reported a

CASE OF ABSCESS OF THE FRONTAL SINUS, ETHMOIDAL CELLS, AND SPHENOID SINUS.

J. B., fifty-four years of age, was seen in March, 1883, complaining of double vision and pain in the head. For many years he had suffered with frontal headache; otherwise his health had been good. A year ago the diplopia was first noticed; the left eye was pushed downwards, outwards, and slightly forwards. The mobility of the eye was impaired. A nodular tumor was found involving nearly all the upper margin of the orbit. This protruded into the orbit as far as the finger could reach. The tumor was hard, and no fluctuation could be detected. The sight was normal, and the ophthalmoscope revealed only slight turgescence of the retinal veins. The case was considered one of sarcoma with periostitis of the orbit. A few days later an incision was made and the tumor found to consist partly of bone, but in the course of the examination the wall of the tumor gave way and a quantity of fetid pus escaped. The abscess extended upwards and backwards. The pus was evacuated and a drainage-tube introduced. When the patient recovered from the ether he complained of an odor in his nose and expectorated much fetid pus. The abscess was washed out daily, but on the eleventh day after the operation the patient was seized with pneumonia, which ended fatally six days later. At the autopsy it was found that the frontal sinus, the ethmoidal cells, and the sphenoidal sinus were converted into one large cavity containing pus, and numerous spicules of bone protruded from the walls.

The object in bringing the case before the Society was to learn whether or not there are any signs to enable a differential diagnosis to be made between tumors of the periosteum of the orbit and disease like that found in this case.

Dr. Kipp also reported another case of distention of the frontal sinus. Mrs. W., aged fifty-seven, consulted him in October, 1881, on account of a painful swelling below the left eyebrow, which had begun to appear six months before. She had suffered pain in this region for many years. There had been no injury, but naso-pharyngeal catarrh had existed for a long time. The tumor was the size of a hickory-nut. It extended into the orbit as far as the finger could reach. It was hard, but on pressure fluctuation could be discovered. The mobility of the globe was slightly interfered with. In the nose there were simply great swelling and congestion of the mucous membrane. The case was considered one of distention of the frontal sinus, and an operation advised. This was declined. The patient was again seen in July of the following year. The tumor was somewhat larger; within a few days the eye had become red and painful, and a shallow ulcer of the cornea was present. The eye was treated with fomentations, boracic acid, and atropia. This caused the ulcer to heal. While examining the tumor it gave way, and the cyst was entirely evacuated, and a quantity of fetid, muco-purulent matter escaped into the mouth. Solution of nitrate of silver was applied to the nasal cavity, which was frequently washed out, and the cyst was evacuated by pressure several times a day. For some weeks the cyst would refill very quickly after being emptied, but by May, 1883, the pain had entirely disappeared and the cyst rarely became distended. The discharge has not been offensive for some months. The defect in the temporal bone is as large as a ten-cent piece, and the end of the finger can almost be pressed into the frontal sinus through it. Air not infrequently enters the frontal sinus when the nose is blown.

DR. LUCIEN HOWE, of Buffalo, read a paper on

THE CHANGES IN THE EYE IMMEDIATELY AFTER DEATH.

The examination was made on a man aged fifty-four, who died from phthisis. One of the conditions observed was wrinkling of the cornea, as seen under oblique illumination, and it was stated that this might readily be mistaken for rupture of the lens, a lesion which has been described as occurring in beheaded criminals.

THURSDAY, JULY 17—SECOND DAY.

DR. W. S. LITTLE read a paper on

A CASE OF DOUBLE GLIOMA OF THE RETINA, PROBABLY CONGENITAL.

The case was that of a child first seen in June, 1882, at which time double glioma was diagnosticated. Surgical treatment was refused, and mercury and iodide of potassium administered. The case went from bad to worse, and finally died in March, 1884. Photographs exhibiting the appearance of the child's head and eyes were presented.

DR. THEOBALD described a case in which four years ago he had enucleated the eye, and in which there had been no return. This patient is about twelve years old. A second case was related in which enucleation had been performed. There was no return of the disease, but one year later the child died from some affection of the brain, the nature of which could not be ascertained. This patient was about nine years of age.

DR. MITTENDORF asked if any of the members had seen a case in which the patient had not invariably died after operation for glioma.

DR. MATHEWSON thought that some of the reported cures could be explained on the ground of mistaken diagnosis.

DR. KNAPP said that there were well-authenticated cases of cure of glioma. The recoveries, however, are rare. He had had but one cure in his experience, and that case had been under observation for fourteen years.

DR. WILLIAM THOMSON, of Philadelphia, presented a paper entitled *A Partial Report of the Progress of the Examination of the Employés of the Pennsylvania Railroad as to their Color-sense and their Acuteness of Vision and of Hearing*, and also described the measures which had been taken to secure legislation on this subject.

DR. GEORGE C. HARLAN, of Philadelphia, reported

TWO CASES OF SWELLING OF THE OPTIC NERVE; POSSIBLY CONGENITAL.

In these cases, the swelling of the disk was discovered accidentally while the eyes were being examined for another purpose. In neither of the cases were there symptoms referable to the condition, and in neither did the swelling of the disk produce any trouble as long as the cases were under observation.

Similar cases were reported by **DRS. RISLEY** and **MITTENDORF**.

DR. GUSTAVUS HAY, of Boston, described two cases in which Bählman's hyperbolic glasses improved vision. In the first case, the cornea was unduly prominent, and in the second case there was distinct conical cornea.

DR. O. F. WADSWORTH, of Boston, read a paper entitled

A CASE OF MYXŒDEMA, WITH ATROPHY OF THE OPTIC NERVES.

The patient was a woman aged forty-two. There was no history of syphilis. Menstruation had always been regular until three years ago, when it ceased. The general health had been good. The first symptom of the disease was noticed six years ago. The lower part of the face and the hands and feet became swollen and œdematous, but did not pit on pressure. On one leg, varicose veins were found; but there is not much enlargement of either leg. The skin is not particularly dry, but she never sweats. The tongue is enlarged, and speech slow. The trouble with vision was first noticed eighteen months ago, and began in the right eye. When first seen by Dr. Wadsworth, a few weeks ago, there was simply light-perception in the right eye. In the left, $V=\frac{20}{XL}$, and the field was contracted upward and outward. No cause could be assigned for the occurrence of the myxœdema. The fact that atrophy exists is not a positive proof that the myxœdema and atrophy had any connection with each other. He had examined the eyes in other cases of myxœdema without finding any lesions.

DR. LITTLE had examined seven or eight cases of myxœdema, but had found no eye symptoms.

DR. T. R. POOLEY, of New York, read a paper on

ACUTE DACRYO-ADENITIS.

A girl twenty years of age had been suffering from trachoma and trichiasis. This was followed by diphtheritic inflammation of the conjunctiva of the left eye, which caused the destruction of the eye. Three weeks later a swelling at the outer upper angle of the right orbit appeared, which was exquisitely sensitive. Hot applications were ordered, and quinine and iron given internally. The following day an incision was made through the upper lid, but no pus was obtained. From this time improvement set in and continued, and when last seen she was perfectly well.

DR. KNAPP did not consider it a very rare occurrence to have inflammation of one lachrymal gland. The prognosis is invariably favorable. In none of the cases which he had seen had there been any conjunctival trouble or any infectious disease,

DR. W. F. MITTENDORF, of New York, read a paper on

POLYCORIA,

describing two cases of multiple pupil. In the first case there were five openings in the iris of the left eye, and in the second (the father of the first), there were two pupils in the right eye, the lower one being divided into two by a band passing across it.

DR. W. T. SEELY had seen a number of cases of polycoria in the members of a certain family, and in all the cases which he had seen the individuals had gone blind.

DR. MITTENDORF stated that the daughter was aged thirty-two and the father sixty-five, and that neither had exhibited any indications of blindness.

DR. SEELY, in reply to a question by the President, stated that they had gone blind with choroiditis.

DR. E. HUTCHINSON, of Utica, described the case of a man injured by a premature explosion of powder in such a way that the sight of the left eye was destroyed, and on the right side the contraction, which formed the cicatrix caused by the burning, prevented the opening of the eyelids, although the eye was intact.

The operation consisted of cutting deeply through the external commissure, dividing the ligament and dissecting it up. A web of conjunctiva was then planted into this opening. After he had recovered from this operation, a V-shaped piece was removed from beneath the lower lid and the parts brought together. A very satisfactory result was obtained.

Dr. Joseph Aub, of Cincinnati, read a paper on the

REMOVAL OF FOREIGN BODIES FROM THE VITREOUS.

He reported three cases in which by the use of an electric magnet he had been able to remove pieces of iron from the vitreous, and save the eye. In a fourth case the iron had become encapsulated, and could not be detached. Sympathetic ophthalmia appearing, it became necessary to enucleate the eye.

Dr. Knapp considered it not a difficult matter to remove the foreign body when it could be seen. Cases had been reported in which a foreign body which could not be seen was removed. He had himself reported one such case.

Dr. Mittendorf described a case in which a piece of iron had passed entirely through the eyeball, and was found lying behind the sclerotic coat.

Dr. Knapp stated that the opinion which he had formed from his own experience and from a study of the literature of the subject, was that it would be better at once to remove the eye into which a foreign body had entered, provided the body could not be seen. In this he thought that the greatest good to the greatest number would be given.

Dr. Mittendorf endorsed these views.

The discussion was further continued by Drs. Pooley, Hutchinson, Harlan, and Little.

Dr. S. D. Risley, of Philadelphia, read a paper on

A CASE OF HYPERMETROPIC ASTIGMATISM PASSING INTO MYOPIA.

The patient when first seen, in 1875, was a little girl, ten years of age. She complained of headache. Under atropia the error of refraction was corrected with a 60 s, 60 c. Axis 90. This gave $V = \frac{20}{XX}$. The headaches disappeared and did not return until after she had gone for some time without her glasses, they having been broken. When the glasses were renewed, the headaches disappeared and she passed from observation. A short time ago she again returned, complaining of headache and inability to use the eyes. It was then found that there was myopic astigmatism. This was corrected with a suitable glass, and since then there has been no difficulty.

The case was discussed by Drs. Knapp, Seely, Hay, and Theobald.

The Society then went into executive session.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. W. F. Norris, of Philadelphia.

Vice-President.—Dr. Hasket Derby, of Boston.

Secretary and Treasurer.—Dr. O. F. Wadsworth, of Boston.

Corresponding Secretary.—Dr. J. S. Prout, of Brooklyn.

Committee on Publication.—Drs. O. F. Wadsworth, Hasket Derby, and G. Hay.

Committee on Membership.—Drs. John Green, George C. Harlan, A. Mathewson, Samuel Theobald, J. J. B. Vermyne.

Drs. Miles Standish, of Boston, John Van Duyn, of Syracuse, and S. O. Richey, of Washington, were

ELECTED TO MEMBERSHIP.

The selection of the place for the next meeting was left to the judgment of the Secretary, the time of meeting being the third Wednesday of July, 1885.

Adjourned.

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, May 5, 1884.

William Hunt, M.D., in the Chair.

Dr. Pancoast presented a patient with

COMPLETE DISLOCATION, BACKWARDS, OF BOTH BONES OF THE FOREARM.

This gentleman while riding a bicycle, fell and injured his arm. He came to Dr. Pancoast immediately afterwards, and he found a complete dislocation, backwards and outwards, of both bones of the forearm. The patient does not recollect falling on the palms of his hands, but thinks that he struck his elbow. The question is whether this could be a complete dislocation of both bones, and whether this could take place without fracture of the condyloid process, or rupture of the ligaments. He could not detect any crepitus. In Prof. Gross's *Surgery* it is said that there is only one recorded case of complete dislocation of both bones of the forearm backwards. This is given by Erichsen. It seemed to him that this case could be called one of complete dislocation. He could put his finger in the trochlear surface from which the olecranon had been pushed out. He thought that under these circumstances the condyloid process would be broken, yet he could find no evidence of this injury; the ligament, he thought, must have been ruptured. The difficulty of reduction in this case was opposed to the supposition that the coronoid process was broken. The dislocation was reduced under ether by extension and counter-extension, with direct pressure on the olecranon; pronation and supination being also employed.

In reply to questions, Dr. Pancoast said that the arm was rigid, and that the olecranon rested on the posterior surface of the epicondyle with the end of the radius looking directly backwards.

Dr. Barton said that a case was brought into the hospital with a backward dislocation of both bones of the forearm, which was reduced without difficulty under ether. Three days later the woman died from delirium tremens. At the post-mortem it was found that the lower end of the humerus had made its exit through a tear in the ligament, and it would therefore seem more appropriate to speak of this as a forward dislocation of the humerus.

Dr. Nancrede asked if Dr. Barton found anything in the ligaments which would prevent the reduction of a forward dislocation of the radius head. He was called to a case in which another physician had tried for an hour under ether to reduce such a luxation. He tried every conceivable plan without avail. He even used local pressure with a tourniquet. The bone could be pushed to a certain point, and beyond that it could not be moved. It seemed as though, when the bone was forced back, the edges of the tear through which it had escaped were brought together. There was no swelling to account for the difficulty. Nearly every one has met with such cases.

DR. PACKARD said that there are one or two points in reference to dislocations of the elbow which have not been sufficiently dwelt upon in the discussion. One is that very often, in the dislocation of the elbow, the joint is not rigid in its displaced position. He could mention six cases in which the arm was perfectly flaccid, and was reduced without any difficulty. He thinks that Dr. Hunt will recall a case which he saw with him some twenty years ago, in which they divided everything in the neighborhood of the joint, but the arm was perfectly rigid. It was impossible to start the bones in the slightest degree. In adults the fixation of the joint is apt to be far greater than it is in children. In children one of the great difficulties in the diagnosis is to differentiate between dislocation and separation of the lower epiphysis of the humerus. He means the articulating portion of the radius only, not the epicondyle or epitrochlear. This occurs sometimes, and is apt to complicate the case very much, not at the time, but it makes the results very unsatisfactory.

DR. HUNT thought it was the common experience that the elbow bears less delay in reduction than does any other joint.

DR. PACKARD said that he should have mentioned, in connection with the case referred to, that the luxation occurred about five hours before attention was called to it. When they saw it, swelling had taken place to such an extent that it was impossible to decide as to the exact nature of the injury.

DR. J. EWING MEARS said that it is conceded that in certain forms of this injury, it is almost, if not impossible, to reduce the luxation. Would it not be well in such cases to cut down on the joint as for the operation of excision? This, he thought, would be more efficient than the method of dividing the tendons subcutaneously, which was adopted by Dr. Packard.

NEWS ITEMS.

THE CHOLERA EPIDEMIC.—The cholera mortality in France, for the week ending July 22d, according to the cable dispatches, was as follows:

	16th.	17th.	18th.	19th.	20th.	21st.	22d.
Toulon,	11	37	30	17	46	20	14
Marseilles,	53	43	58	35	57	35	57

The disease has spread, and cases are reported at Arles, Brignoles, Paris, Lyons, and Vienna. At Arles the deaths are said now to be averaging nine daily.

The Steamer St. Dunstan, from Marseilles, arrived in the Mersey on July 18th. Two deaths from cholera occurred on board during the voyage. The steamer was ordered to be placed in an isolated position, and all communication with the shore was forbidden. The ship was twice disinfected, and the stores which she took on board at Marseilles have been destroyed, and her water ballast has been pumped out.

CHOLERA PRECAUTIONS IN THE UNITED STATES.—At a meeting of the Cabinet, held on the 18th inst., it was decided to take prompt measures to prevent the introduction of cholera into the United States, and on the next day the President issued the following proclamation:

"While quarantine regulations are committed to the several States, the general government has reposed certain powers in the President, to be used at his discretion in preventing a threatened epidemic.

"Feeling it my duty, I hereby call upon all persons who, under existing systems in the several States, are intrusted with the execution of quarantine regulations to be diligent and on the alert in order to prevent the introduction of the pestilence, which, we all regret to learn, has made its appearance in some of the countries of Europe, between which and the ports of the United States intercourse is direct and frequent.

"I further advise that the cities and towns of the United States, whether on the coast or on the lines of interior communication, by sound sanitary regulations and the production of cleanliness, be prepared to resist the power of the disease and to mitigate its severity.

"And I further direct the Consuls of the United States in the ports where the pestilence has made or may make its appearance, to exercise vigilance in carrying out the instructions heretofore given, and in communicating to the Government of the United States any information of value relating to the progress or treatment of the disease."

On the same day the Secretary of the Treasury issued instructions to collectors of customs and other persons interested, to prevent, until further orders, the unloading of rags from infected foreign ports, and of rags which are suspected on good grounds of being infected, coming from any foreign port.

He also issued the following circular:

"In view of the presence of an epidemic of cholera, the existence of yellow fever, and the Oriental plague, abroad, the safety of the public health in this country demands the enforcement of rigid quarantine against the introduction of these diseases through vessels arriving at our ports. Therefore, in order to assist local authorities in the maintenance of quarantine as provided in Section 4792, Revised Statutes, the unrepealed portion of the Act of April 29, 1878, and recent appropriation acts authorizing the President to maintain quarantine at points of danger, the President has determined to establish, by means of the vessels of the Revenue Marine, a national patrol of the coast of the United States, so far as it may be practicable under existing law and consistent with the performance of the other duties confided to that service."

He accordingly directs "the Revenue Steamers to cruise actively upon the outer lines of their cruising grounds, and to exercise especial vigilance in speaking all vessels arriving from foreign ports, directing their inquiries, first, as to the port from which the vessel sails, and, secondly, as to the health of those on board at the time of departure, during passage, and at the time of hailing; and should the information gained indicate a condition of contagion or infection in the vessel or crew, or that the vessel has left a port at which contagious or infectious diseases were prevailing, her master will be directed to proceed for examination to the outer quarantine station provided for her port of destination.

"The following regulations will be observed relative to the inspection of vessels:

"If a vessel be found with sickness on board, or in a foul condition, she will be directed to proceed to the quarantine station indicated, and the revenue-marine officer will immediately notify the proper quarantine officer. In such case no person will be permitted to board the vessel until the medical officers in charge of the quarantine shall have given the usual permit.

"Should the pilot or master of a vessel when hailed report cases of recent or present sickness on board, the revenue officer will not board, but will send her immediately to quarantine.

"Quarantine officers will be recognized as follows, viz:

"Medical officers or acting assistant surgeons of the Marine-Hospital Service, in charge of Gulf, South Atlantic, or Cape Charles quarantines, or any officer of said service, on duty at any port on the interior rivers or the Great Lakes; and all quarantine officers acting under proper State or local authority."

PRECAUTIONS IN CANADA.—In the matter of the quarantine of vessels, the Dominion Department of Agriculture is taking every precaution. Instructions have been issued to quarantine stations to inspect all vessels arriving from Marseilles, Toulon, and London. At the Miramichi district, Dr. J. R. McDonald has been authorized to make a medical inspection of all vessels arriving in the ports of that district, for the reason that a number of ships arrive there from Mediterranean ports.

EUROPEAN PRECAUTIONS.—The health officers of London held a meeting, on July 18, for the purpose of organizing a hospital service throughout the city, so that in case of the appearance of cholera, the patients can be immediately cared for.

The Academy of Medicine of Paris, by a unanimous vote on July 17, decided that a land quarantine in France is impracticable. It also declared that the disinfection process is inefficacious and illusory, and urged the establishment of cholera hospitals at all large railway stations; and, in accordance with this decision, the fumigation of the railway stations at Toulon, Marseilles, and Paris has been discontinued.

The governments of Italy and Switzerland have agreed to coöperate in measures to prevent the introduction of cholera into their territories. Switzerland has expressed its willingness to guard the French frontier, in order to examine all persons and goods crossing it. Hospitals for the accommodation of cholera patients have been formed at Chiasso, Switzerland, and Luino, Italy.

Portugal has extended her quarantine to all European shipping.

The Spanish Government has strengthened the sanitary cordon in the Pyrenees, and produce from Marseilles and Toulon will not be permitted to enter Gibraltar.

The Russian Government has ordered a strict guard to be maintained at the frontier railway stations against the introduction of cholera.

THE CHOLERA IN CALCUTTA is on the decrease, only seventy deaths having occured for the two weeks ending June 7th.

YELLOW FEVER.—There were twenty-nine deaths from yellow fever at Havana last week. No case of the disease has yet obtained a foothold in the United States so far as is known.

PENNSYLVANIA HOSPITAL FOR THE INSANE.—Dr. John Bassett Chapin, at present Superintendent of the Willard Asylum for the Insane, at Willard, N. Y., was, on July 16th, unanimously elected to succeed Dr. Thomas S. Kirkbride as Physician-in-Chief and Superintendent of the Pennsylvania Hospital for the Insane.

OBITUARY RECORD.—A cablegram announces the death at London, on July 21st, of Mr. CÆSAR HENRY HAWKINS, Sergeant Surgeon to the Queen. Mr. Hawkins, third son of the late Rev. Edward Hawkins, and grandson of Sir Cæsar Hawkins, first baronet, sometime Sergeant Surgeon to George II. and III., was born towards the close of the last century. After having been for a few years Lecturer on Anatomy at the school in Great Windmill Street, he was, in 1829, elected Surgeon to St. George's Hospital, where he lectured on Surgery. He resigned in 1861, was appointed Consulting Surgeon to St. George's Hospital, of which he was a trustee; was for some years an Examiner in Surgery at the University of London, and a member of the Court of Examiners of the Royal College of Surgeons, of which he has twice been president. Mr. Hawkins held several other professional appointments, such as President of the Royal Medical and Chirurgical and Pathological Societies, and on the death of Sir Benjamin Brodie, he was appointed Sergeant Surgeon to Her Majesty. He is the author of "Lectures on Tumors," and other subjects in the *Medical Times and Gazette* and has been a frequent contributor to the *Lancet*, and the *Medical and Chirurgical Transactions*.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 15 TO JULY 21, 1884.

WRIGHT, J. O., *Major and Surgeon*.—Assigned to duty as Post Surgeon, San Antonio, Texas.—*Par. 4, S. O. 87, Headquarters Department of Texas*, July 14, 1884.

HARTSUFF, ALBERT, *Major and Surgeon*.—Leave of absence extended one month.—*S. O. 79, Headquarters Division of the Missouri*, July 18, 1884.

MCELDERY, HENRY, *Captain and Assistant Surgeon*.—From Department of the Platte to Department of the East.—*Par. 12, S. O. 165, A. G. O.*, July 16, 1884.

EWEN, CLARENCE, *Captain and Assistant Surgeon*.—Assigned to duty as Post Surgeon, Fort Sidney, Neb.—*Par. 8, S. O. 58, Headquarters Department of the Platte*, July 11, 1884.

ELBREY, F. W., *Captain and Assistant Surgeon*.—Leave of absence still further extended six months on surgeon's certificate of disability.—*Par. 6, S. O. 161, A. G. O.*, July 12, 1884.

STRONG, NORTON, *First Lieutenant and Assistant Surgeon*.—Granted leave of absence for two months, to take effect when relieved from duty in Department of the Platte.—*Par. 2, S. O. 68, Headquarters Division of the Missouri*, June 27, 1884.

WAKEMAN, WM, J., *First Lieutenant and Assistant Surgeon*.—Relieved from duty at Fort D. A. Russell, W. T., and assigned to duty as Post Surgeon at Fort Washakie, W. T., relieving Assistant Surgeon Norton Strong.—*Par. 9, S. O. 58, Headquarters Department of the Platte*, July 11, 1884.

APPOINTMENT.

CHARLES B. EWING, to be Assistant Surgeon, with the rank of First Lieutenant, July 5, 1884, vice Middleton, promoted.—*Mem. A. G. O.*, July 14, 1884.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLV. SATURDAY, AUGUST 2, 1884. NO. 5.

ORIGINAL LECTURES.

DISEASE OF THE HIP-JOINT.

A Clinical Lecture,
Delivered at the Bellevue Hospital Medical College.

BY LEWIS A. SAYRE, M D.,
PROFESSOR OF ORTHOPÆDIC SURGERY IN THE COLLEGE.

(Reported by Edward Develin, M.D.)

GENTLEMEN: The first case that I present to you today is that of a little child eighteen months of age suffering from hip-joint disease in the second stage. On account of the small size of the child when she was first brought to me, I deemed it inexpedient to attempt to apply the long hip-splint, and, therefore, directed her to be placed in the wire cuirass (Fig. 1) in which you now see her. When I first saw her there was an enormous abscess at the joint, which I believed, at that time, to be extracapsular. This was aspirated three times, in the hope that by this means, and by compression afterwards applied, the walls would become agglutinated, and thus all further trouble in regard to the abscess be done away with. I gave her the benefit of the doubt in this case, in order, if possible, to avoid an incision and the appearance of the resulting cicatrice from this treatment. It, however, was of no avail, the abscess still continuing to fill up. I therefore made a free incision down to the lower border of the abscess, by this means securing thorough evacuation of its contents; then washing it out thoroughly and inserting a rubber tube I maintained perfect drainage. As I remove this dressing, you observe that the parts are now in a healthy, granulating condition, and the limb is of normal size; perhaps somewhat smaller than the other, owing to its confinement.

Having now removed all dressing from the limb, I carefully lift it up from the cuirass, at the same time that I make a slight traction upon it. This you must be careful to do, otherwise you will cause pain by your manipulations. As I now hold the leg in this position, with my other hand under the thigh, I can make quite free motion within the joint in all directions without causing pain, as is shown by watching the face of the child.

I see no reason, therefore, why we should not secure the most satisfactory results in this case, and restore this child with perfect strength and motion in this now diseased limb. Before a year has expired I hope to be able to apply the long hip-splint, which I here show you (Fig. 2), in order that the child may secure all possible benefit from out-door exercise.

In relation to the wire cuirass in these cases of very small children suffering from hip disease, in which the long splint cannot be applied, I cannot speak too highly. By means of the screws attached to the foot-plate you can secure any amount of traction you desire, making your counter-traction, as is done in this case, by passing your roller bandage under the perineum and up over the handles of the instrument, which, you observe, are midway between the thigh and shoulder. In this position, the anus being directly over the opening in the back of the instrument, the child can relieve its bowels without disturbing its position, and the parts can be cleansed by the mother without soiling the clothing or person of the child, the instrument at that point being covered with rubber cloth. She can, as she is now secured, be placed in the upright position as you now see me take her. In this position she can be placed by the window, in order to secure the benefit of the fresh air when the mother is not at liberty to take her out. The facility with which I can handle the child as she is now secured, without causing her pain, cannot fail to convince you of the advantages to be gained by the use of the cuirass in those cases in which the child is too small for the hip-splint to be applied.

FIG. 1.

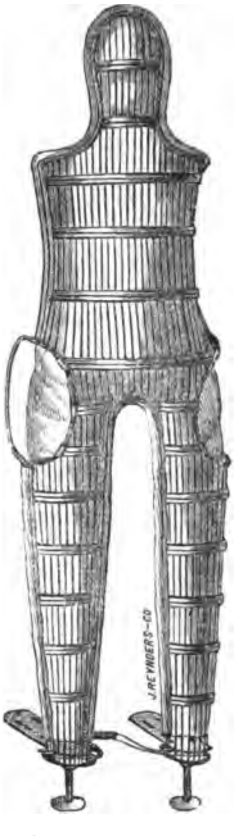
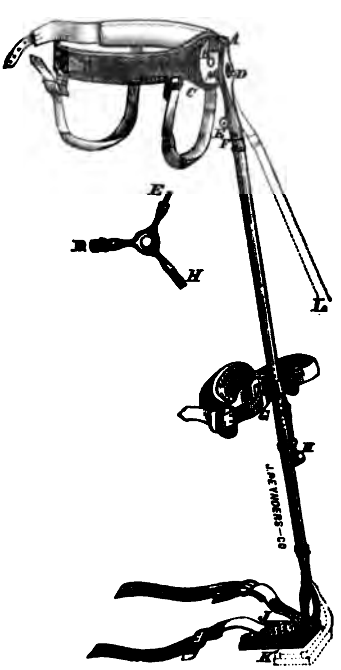


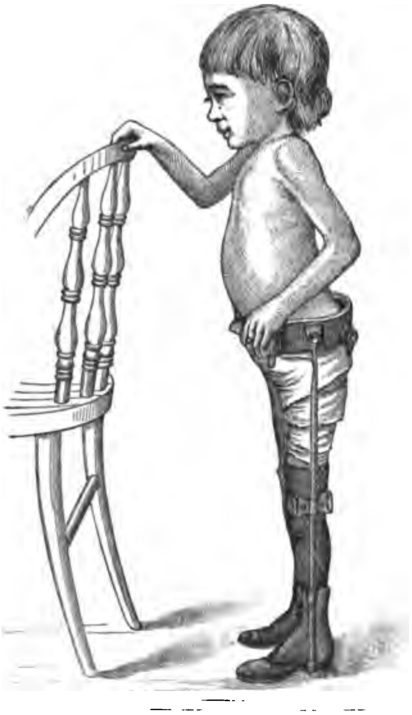
FIG. 2.



[Note, thirteen months after.]—The child has now been wearing the hip-splint for some months. Three months ago she suffered from a severe attack of pneumonia, followed by acute nephritis. The attending physician gave his opinion that she could not possibly survive. At the present date, however, she has fully recovered, and is able to walk around out of doors, and is brought to the city to my office once a week to allow dressing of the abscess. Prior to the attack of illness I have just mentioned a second abscess formed at the thigh, which I incised, freely washing out its contents, and dressing, as is my usual custom, with oakum and Peruvian balsam.

There is now excellent motion in the hip-joint, the progress of the disease having been arrested in spite of the unfavorable conditions induced by her recent illness. The prognosis is most favorable in this case. Fig. 3 shows condition of child at the present time, with long hip-splint applied.

Fig. 3



In applying the long hip-splint the leg should, first, be carefully washed, in order to remove all excretions upon the skin, which might interfere with the adhesion of the plaster used in its application. This having been accomplished, I then take two long strips of mole-skin plaster, about two inches in width, reaching from the upper part of the thigh on either side to just above the ankle. At the lower end of each strip you will notice there has been a buckle attached. Placing these strips of plaster on either side of the leg, I then take an ordinary bandage and bind very tightly around the leg from the ankle to the thigh. This bandage is to be removed in a few moments, but my object in applying it tightly, is to secure firm adhesion of the plaster to the skin; you notice that the better to secure this I am now rubbing over the plaster outside of my bandage, in order to secure this adhesion.

Now, removing this bandage you observe the plaster is firmly adherent. I never apply artificial heat to the plaster unless the air in the room is very cold; as I have so often seen the adhesiveness of the plaster entirely ruined by warming over a spirit-lamp, and the dressing required to be renewed in a few days; whereas the dressing which I am now applying will, I trust, remain for weeks, or even months.

I then take a flannel bandage, and commence to bandage the foot, gradually passing up the limb until I reach the upper third of the thigh; at that point I reverse the ends of my adhesive strips over the flannel bandage, and secure them with a few turns of the roller, thereby materially assisting in keeping the dressing in place. This dressing is precisely the same as that which was applied to the child one year ago, when she was placed in the cuirass. I should, therefore, have applied the splint without redressing, had it not required it. It has, however, given me the opportunity of showing you the manner in which I apply the same, preparatory to applying the long hip-splint.

You will notice that this long splint consists of a pelvis belt passing around the pelvis in such a manner that the *upper* edge of the belt is on a line with the crests of the ilia. There are also two perineal bands. Now passing from this pelvis belt at the side, in a line with the great trochanter, we have this side rod which is hollow and cylindrical; half way between the knee and ankle this rod ends, and admits a smaller rod which passes into it, and is regulated by a ratchet and key; the foot-piece at the lower end of this rod passes under the shoe, and a small leather strap there inserted is secured on either side by the buckles which are attached to the adhesive plasters secured as I have just shown you. There is also at the knee, you observe, a buckskin pad to assist in maintaining the leg in position; and when necessary a joint can be placed in the shaft of the splint at the knee, to allow of flexion when sitting down. This may be done when the active progress of the disease has been arrested and recovery approaching. I wish to draw your attention to the position of the perineal bands, as the instrument-makers will attach them at almost every conceivable place upon the pelvis belt where they are not wanted. Now, posteriorly, as you observe, these straps are wide apart, passing over the gluteal muscles. But anteriorly you notice they are much closer upon the belt, being only about three inches apart, and passing directly up on either side of the symphysis pubis. If the bands are placed widely apart anteriorly, they make compression upon the femoral vessels and press the thighs outwards. At the same time, the traction is not brought to bear upon the desired point.

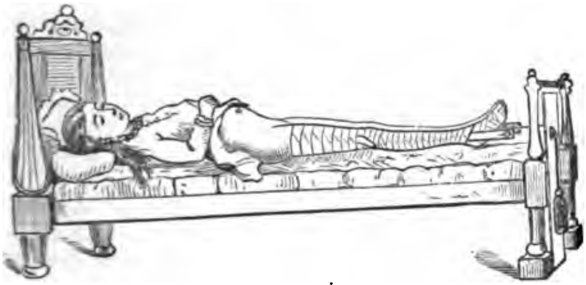
Having now secured the instrument upon the child, our next point is to make extension. This is accomplished by means of the ratchet and key here shown you. The extension is to be made to that point at which your patient states he feels *comfortable;* there you must stop and secure your extension by means of this little sliding catch upon the rod. Do not judge your extension when applied the next day by that made upon the preceding; do not count or mark the holes in the straps or notches upon the instrument, and take that as your guide; for leather will stretch, and you may not apply the instrument exactly as you did before; therefore, you will fail to secure relief if you make your extension to any set marks. *You must always be guided by the feelings of your patient.*

When you have applied one of these instruments to a child, and instructed the parents as to its mechanism;

you will often have them ask you to mark upon it how far they are to key out the rod in order to make extension. You must impress upon them the utter uselessness of this method, and insist upon extension being made until the patient states, that at one particular point of the extension he feels most comfortable.

At night when the child goes to bed the splint is to be removed, and the weight and pulley applied to the foot, as I have before stated. (Fig. 4.) In some cases, however, you may find that the patients will state that they are more comfortable with the splint than with the weight and pulley, and will ask to be allowed to wear the splint in bed. I know of no reason why they should not do so if they desire, but, as a rule, the weight and pulley affords the same relief as the splint when it is properly applied. In such cases, therefore, examine carefully your night extension apparatus, and see that the bed is raised sufficiently to secure counter-extension; for it is on these slight details that the success of your treatment depends.

FIG. 4.



I probably could not choose a better time than the present to explain to you the application of the short hip-splint, so that you may compare the two instruments and their application.

The short hip-splint (Fig. 5), you observe, like the long one has a belt which completely encircles the pelvis. From the side of the splint passes down a rod which is composed of two pieces sliding within each other, and regulated by a ratchet and key as extension may require. This side rod passes down within a distance of one and a half inches above the condyle, so that the two flat curved bars which pass from this portion of the rod over and in front of the thigh cannot by any possibility press down upon the patella if the instrument is properly adjusted. There are also, as you notice, *two* perineal bands, as in the long hip-splint, and a strap going over the shoulder from the outer ends of the pelvis belt, to keep it at right angles with the body. At the ends of the lower bar, which passes in front of the thigh above the patella, are two buckles which are to secure the splint in position, from a piece of stout webbing attached to the plasters, which I will now show you how to apply.

The short splint is to be removed at night, but we must still maintain our traction upon the limb: to do this, the weight and pulley is applied as I have shown you in illustrating other cases. There is, however, a difference in the form and application of the adhesive plaster to the leg in this splint. I first take two long strips of adhesive plaster, which pass up the leg as in the long splint, but with this difference: they do not extend more than two or three inches above the condyles of the femur. These are secured with the roller bandage, as I have before described, and are for night extension only. The next thing for us to do, is to apply the plasters which secure the splint in position. These consist of two broad fan-shaped pieces of plaster split into five or six

FIG. 5.

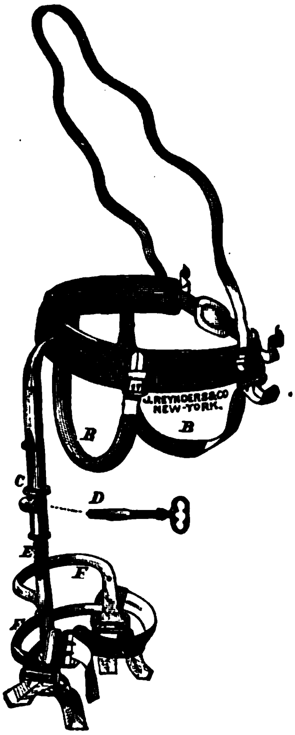


FIG. 6.

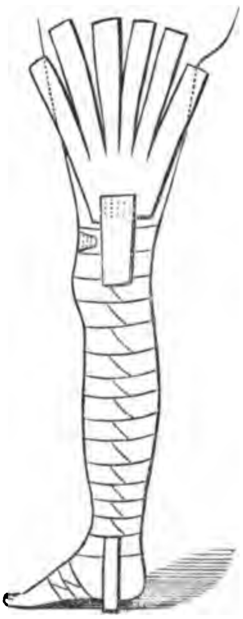
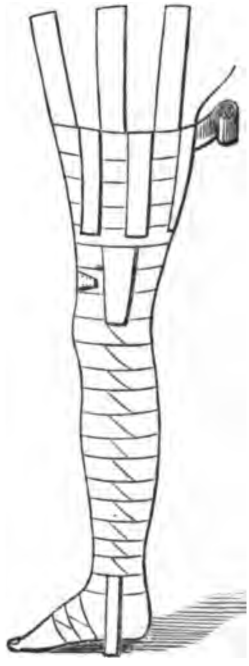
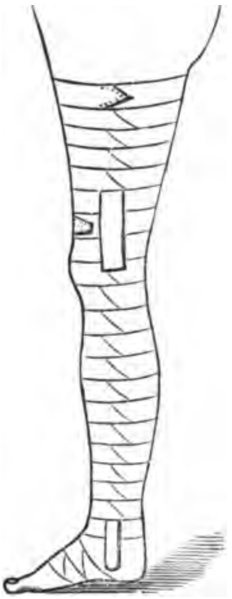


FIG. 7.



tails (Fig. 6), except at the lower narrow portion, which is not cut. At that point about six inches of stout webbing is sewn firmly to the plaster. Having prepared these in this manner, you place the lower portion holding the tab, three inches above the condyle on either side; then carry the tails of the plaster up the thigh. My assistant then holding these in position, I commence at the lower end with a roller bandage, leaving my pieces of webbing outside and passing upwards, reversing the ends of the plaster over my bandage as I reach the upper part of the thigh (Fig. 7), and then, with a few turns of the bandage, I secure these reversed ends, and the dressing is complete. (Fig. 8.) In order to make the plaster more firmly adherent, I then rub it into the skin by pressure upon the outside of my bandages.

FIG. 8.



We are now ready to apply the splint, although when practicable I prefer to wait a few hours, as the plaster has then become more firmly adherent, and is therefore less likely to slip when I make extension on the limb.

The pelvis belt and perineal bands are adjusted as in the long splint; before fastening the perineal bands, however, the splint is brought into place, and the tabs on either side of the thigh above the knee are passed over the roller and secured by the buckles on the inner and outer side of the curved bar which passes over and in front of the thigh just above the knee. These being securely fastened, the perineal bands are made secure, and the shoulder strap fastened so as to give equal pressure upon the outside perineal band, and I am then ready to make extension. This is done by the ratchet and key in the side rod; making the extension to the point where it affords the patient the most relief, as I have before explained to you when applying the long splint.

CASE II. *Hip disease: second stage.*—Female, aged twenty-one years. This patient comes from Connecticut. She states that two years ago she suffered from sciatica, the pain being intense in the left side, hip, and knee; at that time she was confined to her bed for five weeks, since that time she has been lame and unable to walk without crutches.

You observe that the patient bears the weight of the body entirely on the right limb; the left limb is flexed at the thigh and knee, the toes being turned outwards, this deformity would indicate disease of the hip-joint advanced to the second stage; namely, effusion within the capsule. The gluteo-femoral crease upon the left side has entirely disappeared, giving the natis upon that side a flat appearance, this, also, is characteristic of hip disease, although observable in other deformities. The moment we attempt to invert this left foot, you observe it causes a spasm of pain; by this action the capsular ligament was rendered tense around the neck of the femur, and by its pressure upon the inflamed parts induced this spasm. We now take hold of the thigh just above the knee, and make traction upon it *in the line of the deformity;* I wish you to watch carefully the manner in which this is done, as some gentlemen by their manipulation increase the severity of the disease by making rude traction upon the limb, omitting to make their extension in the line of the deformity, and by such omission increase the pain and irritation at the seat of disease. There is no necessity to cause pain in your extension; it is just the reverse of that, as you can now see by the expression of the face of this patient; apply your force in such a manner as to relieve the inflamed parts from pressure; so that if by this means you relieve your patient it is equally of diagnostic importance as though you had caused pain. I can tell the moment that relief is afforded, by the relaxation of the muscles beneath my fingers; and now with the limb extended in this manner we can make slight motion in the joint without causing pain, but the moment the extension is released the muscles instantly assume their rigidity, and, as you observe, it is impossible to move the limb in the least degree without causing pain, and the whole pelvis moves as if the joint were anchylosed.

It is therefore necessary to place the limb in the extended position, and retain it there with traction maintained by artificial means, until the fluid within the joint is absorbed, keeping the patient in bed, and making the extension by means of the weight and pulley, a sling or cushion being used to support the leg in order that the extension may be made in the line of the deformity, the limb being gradually brought parallel with the body as the effusion within the joint subsides; a blister in the meantime being placed behind the trochanter major and repeated as often as necessary. After the effusion has been absorbed and the limb brought to the normal position, my long or short splint is then to be applied to maintain the extension, and thus prevent the attrition of the articulating surfaces. The patient can then go out of doors in order to exercise the limb, and secure the benefit of the fresh air, so that her general health will not suffer in any degree.

[Note.]—This patient was placed in the hospital and extension maintained for three weeks as stated above, the effusion within the joint having then been absorbed sufficiently to allow of the application of the splint. Her improvement was so rapid and satisfactory, that

I applied the short hip-splint in this case, as I judged it would fully answer all purposes required. The following week she left for her home in Connecticut, still improving; the treatment to be continued by her attending surgeon.

CASE III.—This child which I now bring before you was presented at our clinics one year ago, suffering from disease of both hip-joints; the disease being caused by a fall in which the legs were thrown widely apart, and occurring some three years previous.

A year ago, when this girl was presented to us, the left leg was in the second stage of hip-joint disease, being flexed at the thigh at an angle of 45°, strongly abducted and rotated outwards with eversion of the foot, giving us the characteristic deformity of the second stage of the disease. The right hip-joint had probably sustained less injury than the left, the disease in this joint being in the first stage.

I at that time directed that the child be placed in bed and traction made upon both limbs by means of the weight and pulley, it being applied to either limb in the direction of its deformity; counter-extension being secured by the weight of the body, by means of raising the foot of the bed six inches.

This treatment has been faithfully followed out, and with the most satisfactory results in the right limb, as a complete recovery has been secured and we have now perfect motion within the joint. The disease in the left hip-joint, however, had reached such an advanced condition of the second stage that it could not at once be arrested, and rupture of the joint capsule followed a few days after I saw her. In consequence of this condition we have here a slight arrest of the growth of the limb, and in all probability some absorption of the bony structures of the joint itself.

I can now, while making traction upon the limb, bring it to a right angle, with adduction, abduction, and rotation without causing any pain; thus showing that a cure can be effected in this case with probably perfect motion, although, of course, the limb will be shortened. Since treatment was first commenced in this case the child has grown four inches in height; the disease, however, when I first saw her had advanced to such a stage that the effusion within the joint has since caused rupture of the capsule, and the fluid has now escaped into the surrounding tissues; so that the disease in this left leg has reached the third stage, giving us, when extension is discontinued, flexion and adduction of the limb with rotation inwards, and inversion of the foot, Now, when the rupture of the capsule occurred the child experienced relief from pain, and there also occurred, a change in the position of the limb, it then assuming the deformity of the third stage of hip disease, namely, adduction of the thigh with inrotation of the limb and inversion of the foot.

I have told you that the capsular ligament of the hip-joint has been ruptured in this case; hence we have then the fluid which it previously contained, flowing out into the surrounding tissues, resulting in the formation of an abscess with the accumulation of a large quantity of pus; this abscess we will now aspirate, and, if its contents are sufficiently fluid to pass through the needle, we can remove this matter, which is a foreign body. (The aspirator was then used, one ounce of pus being withdrawn.) You observe that as I withdraw the needle I slip my thumb over the wound and then close it with a piece of adhesive plaster, thus preventing the admission of air to the cavity. We now take a roller bandage and bind firmly around the thigh and pelvis so as to bring the walls of the abscess in apposition; and it is possible that we may by this means cause adhesion of these walls. In this case, as the contents of the abscess were easily evacuated, we may eventually effect a cure by this means, and thus avoid making a free incision; whereas, had it been a semi-fluid mass containing flocculi and sloughs of connective tissue, our best treatment would then be freely to open and wash out the abscess.

We will now apply the long hip-splint, the leg having been brought perfectly straight by extension and counter-extension; the child can then go out of doors and secure the benefit of the fresh air, by this means keeping up her general condition. It may, however, be necessary to aspirate this abscess more than once, and if this method fails, a free incision should then be made, as I have before stated.

CASE IV. *Hip disease: third stage.*—The child which I here present to you was also sent to me from Connecticut, and I bring him here to show you the deformity which characterizes disease of the hip-joint in the third stage, and which the rupture of the capsule and absorption of the osseous structures will produce. He is now four years of age, and the parents attribute this difficulty to falling from his bed, shortly after which he first commenced to complain of pain in his knee. He was afterward taken to the Massachusetts General Hospital, where he was treated with a fixed apparatus for disease of the knee-joint.

As he now lies upon the table, my assistant holding the pelvis perfectly still, with the spinous processes of the vertebral column touching the table, we begin to realize the extent of the deformity here produced. For you notice, in order to place the back and pelvis in their normal position, and which they now represent, I am compelled to adduct and inrotate the limb across its fellow just above the knee over the thigh, thus giving us inversion of the foot, and at the hip you will notice an undue prominence of the trochanter major, arising from this same inrotation of the limb. Now, as long as I maintain the limb in this position, at the same time making slight traction upon it, he is free from all pain. This then is your course to pursue; you yourself cannot hold the limb for any length of time, but you can apply mechanically such means as will secure the same result.

If now my assistant releases his hold upon the pelvis and I bring this diseased limb parallel with the other one, and press the popliteal space upon the table, you notice that as soon as I commence this the back begins to form a complete arch, at the same time the pelvis tilts forward in order to accommodate itself to the deformity I just now showed you. This present position could be maintained only for a few moments without causing great suffering to the patient, and that, of course, I wish to avoid. You notice that, as I now relax my long hold, the leg commences to rise and is gradually drawn over the opposite limb, while the back sinks down to its normal position. The patient knows very readily the position in which to place himself in order to secure the most ease, and thus it is in the deformed position which I first showed you, that he will naturally place himself.

What we want to do is to find the exact line of the deformity; to do this you must fully understand the anatomy of the human body. If there is nothing abnormal, the thigh can be brought down until the popliteal space touches the table and the pelvis remains perfectly still; but now in trying to make the same motion with the diseased limb and yet retain the pelvis in the same position, we are compelled to flex, adduct, and invert the limb; the popliteal space cannot therefore be brought down to touch the table without the arching of the spine and tilting of the pelvis. This is a typical case of hip-joint disease in the third stage.

This child has been sent to me to have the long extension splint applied, but in his present condition it is not applicable. It is now necessary to place the child in bed and secure extension by means of the weight and pulley in the line of the deformity, gradually changing that line, as I have before stated. By this means, in a few weeks you may perhaps bring the limb straight; you can then apply the long splint to the greatest advantage. Now, it may be, that this abscess at the joint will require to be freely opened. I will, however, try the aspirator first and endeavor to secure absorption before resorting to this operation.

If, after proper extension has been applied and thorough drainage of the abscess has been secured, the disease still progresses, you will then need to exsect the hip-joint.

In this case I shall send the child to his home, giving such suggestions to the medical attendant in charge as the treatment which his condition may require.

The instruments which I have to-day shown you can be procured from my instrument-makers, Messrs. Reynders & Co., 303 Fourth Avenue. I mention this, as so many physicians coming from a distance frequently are at a loss to know where they can secure the splints which I use.

ORIGINAL ARTICLES.

ON THE CHLORIDE OF GOLD AND SODIUM IN SOME NERVOUS AFFECTIONS.[1]

BY ROBERTS BARTHOLOW, M.D., LL.D.,

PROFESSOR OF THERAPEUTICS AND MATERIA MEDICA IN THE JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA.

IN that curious accumulation of mediæval learning, *The Anatomy of Melancholy*, gold is mentioned as a valuable remedy in the treatment of that affection. The eccentric author got his notions from the alchemists, and the physicians of the chemical school then rising into prominence. From the earliest times, gems and precious stones, and, to a less degree, the noble metals, were supposed "to free the mind, and mend the manners." Thus Chaucer, who died in the year 1400, æt. 72, in his Canterbury Tales, describes in the Prologue "a doctour of phisike," who

> "Knew the cause of every maladie,
> Were it of cold, or hote, or moist, or drie,
> And where engendred, and of what humour,
> He was a veray parfite practisour."
>
> . . . . . .
>
> "And yet he was but esy of dispence!
> He kepte that he wan in the pestilence,
> For gold in phisike is a cordial;
> Therefore he loved gold in special."

The Arabian physicians, afterwards the Italians, and later still the Montpellier school, recognized the virtues of gold in certain mental and nervous diseases. The best account of gold, from the historical standpoint, and, also, of its physiological and therapeutical properties, is that given by Trousseau and Pidoux. These authors availed themselves freely of the labors of Chrestien, of Montpellier, whose researches have proved the most important yet undertaken.

Gold, in the form of powder, and, also, of chloride, was the subject of investigation by Hahnemann, whose "provings" corresponded, in the main, with the ideas then entertained of the actions and uses of gold. Since then, the homœopathists have employed gold in two classes of cases: hypochondriasis and increased discharge of urine. I once heard an original homœopathist, a high-potency person, testify regarding the happy influence of the 30th dilution of gold on the mental condition of an old man affected with senile dementia. When the astute attorney on the other side, got the homœopathic doctor to make a calculation of the quantity of gold actually received by his patient, the jury wore an incredulous look, very depressing to the opposing counsel.

From the various sources of information now available, chiefly clinical, we learn that the preparations of gold possess those properties formerly entitled *alterative*, and now usually designated by the phrase *promoting tissue-metamorphosis, or metabolism*, and the power to give stability to nervous matter, or the antispasmodic property. There are three several heads under which it will be convenient to group for my purpose the therapeutical powers of gold and its preparations, quite irrespective of its supposed physiological actions:

The so-called alterant effects;

The actions on the nervous system;

The urino-genital properties.

Before undertaking to present the details under these several heads, it may be best to say something of the preparation used. I have always preferred the double chloride of gold and sodium since I learned how little diffusible the chloride is. Injected subcutaneously in animals, the chloride seems not to diffuse through the vessel-walls, and when introduced into the blood tends to clog the kidneys. On the other hand, the double salt is readily diffusible. I have no experience with metallic gold or the oxide. Notwithstanding the chloride is so little diffusible, when taken into the stomach, effects are produced. It is probable that in the reactions which ensue the double chloride—of gold and sodium—is formed.

The usual dose of the gold and sodium chloride is one-twentieth of a grain. In this quantity twice or three times a day, it appears to have, as its primary action, the power to promote constructive metamorphosis, to improve the globular richness of the blood, and to increase tissue-strength. However, kept up for a time, tissue-changes become more rapid, and waste occurs in excess of repair. The tissues yielding most readily are, as might be expected, the connective, and especially those of pathological formation. Hence the utility of this remedy in *sclerosis*, whether nervous, hepatic, or renal. Especially in posterior spinal sclerosis, and in chronic interstitial nephritis, have I found the gold salt very efficacious. I am far from believing that lost parts may be restored, although some of my critics appear to think my credulity limitless. If used in locomotor ataxia, early and persistently, it has seemed to arrest the disease. It is true, since the publication of Strumpf's results with the faradic brush, I have not failed to make use of this method, but that it alone will stop the morbid process, I do not find. Before the electric brush had been employed systematically, I had witnessed the best results from gold and sodium chloride. During the last ten years, I have seen many cases in consultation, but of five in my immediate charge which I have followed, and in which the treatment was begun with the onset of the second stage; in three the disease seems not only to be arrested, but the condition improved. The knee-jerk, however, remains absent or feeble. The others are manifestly improved. Thus far, no persistent gastric or intestinal disorder has been caused by the remedy.

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[1] A preliminary note read before the American Neurological Association.

Excellent results have followed the use of the gold chloride in many cases of fibroid kidney, not only in my own hands, but in the care of other practitioners. Unquestionably the homœopathists, guided in the use of this agent by the symptom—increased urinary flow, have had good results from the first dilution, but this topic is foreign to my present purpose.

There is a form of hypochondriasis, coincident with the onset of degenerative changes in the cerebral vessels—and it may be dependent on these changes—in which the gold and sodium chloride is very effective. It must be persistently used, and after a time the uneasiness in the head, the vertiginous and other abnormal sensations subside, the mental depression at the same time clearing up. Dr. Bauduy, of St. Louis, kindly informs me that he has had the same good effects. It seems to me that the ancient notion that gold is a "cordial" to the mind in cases of melancholy, is also supported by modern experience.

In certain affections characterized by spasm, as asthma, laryngismus stridulus, and singultus, this remedy acts surprisingly well sometimes. A physician with large experience in a malady which I do not see at all now-a-days—pseudo-croup, or laryngismus—informs me that he employs no other remedy, and his patients get speedy relief. There are various cognate affections in which, no doubt, it will be found in a high degree useful.

The same powers render gold a remedy of great value in certain urino-genital affections. I have referred to chronic interstitial nephritis. I could enumerate many instances of the more chronic cases of albuminuria, in which the curative effects of this remedy have been most conspicuous; but I am here concerned with the merely nervous affections. There are certain cases of sexual debility, accompanied by an extreme degree of hypochondriasis, which are amongst the most difficult and unsatisfactory with which we have to deal. No remedy has seemed to me so serviceable as this in this troublesome condition of things. In simple sexual debility, its administration promotes activity. In dysmenorrhœa with scanty menstruation, and in chronic metritis, accompanied by these symptoms, the persistent administration of gold and sodium chloride has done much good.

I present these notes now, in advance of more elaborate treatment, to awaken a more general interest in the actions and uses of gold. My observations indicate the direction in which this remedy promises to be useful, but wider and more varied experience is necessary to fix its real position. That it possesses very valuable powers, is certain, but it remains to be seen how far my belief is justified in the results of many cases seen under diverse conditions.

TREPHINING FOR INSANITY, CONSEQUENT UPON A DEPRESSED FRACTURE OF THE SKULL.[1]

By WILLIAM A. BYRD, M.D.,
of Quincy, Illinois.

La Motte, in 1705, trephined a patient for epilepsy, according to Dr. Gross; then that method of treatment slumbered for ninety-nine years, to be revived by Mr. Cline, of London, but the operation did not come prominently before the profession until Dr. B. W. Dudley of Lexington, Kentucky, published, in 1828, five cases he had operated upon for that disease.

Insanity as a sequel to epilepsy is not so rare as to cause, in my belief, the application of any remedy for it when resulting from epilepsy, or from such a cause as would produce epilepsy, to be looked upon as irrational practice. Yet when I searched the works on surgery in my possession, written by some fifteen different distinguished gentlemen, I found trephining for insanity from traumatism of the skull mentioned by but one, *Gross' System of Surgery*, 6th ed. vol., ii. p. 89, as follows: "Prof. Briggs had, up to 1882, trephined the skull for traumatic epilepsy in 28 cases, with complete recovery in 22, partial relief in 3, and no benefit in 1. For insanity caused by injury of the skull, he performed the operation in 2 cases, in one successfully, and in one followed by death." I wrote to Dr. Briggs, who kindly answered as follows:

"The cases have only been reported in my clinical lectures, which are published from time to time in our journal. I will send you the manuscript notes of the lecture in one of the cases, taken by a student. The other case was that of a little boy whose photograph I send you, exhibiting the seat of fracture, etc.

"He recovered his faculties after the operation. His symytoms were those of furious mania; fighting, biting, and scratching every one with whom he would come in contact. Having a constant disposition to escape from his parents and hide himself. There was a peculiar disposition in this case, as well as in the first, and, also in another which I have since operated on, of keeping the head lower than the body, The favorite position of this boy was with his body bent over a chair, the head resting on the floor. I have only operated upon one case since my report to Dr. Gross. The case was that of a man who had received a gunshot wound just above the ear, fracturing and displacing the bones in an irregular manner. The removal of the point of irritation relieved him of his lunacy. When I meet you I will give you the cases in full, so that you can utilize them."

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[1] Read before the American Surgical Association, May 2, 1884.

The report of the lecture of Dr. Briggs, describing his fatal case, reads as follows:

"The patient is a young man who, before his affliction, enjoyed good health, but his condition now is such as to excite the warmest sympathies of even the coldest among us. Five years ago he received a severe blow from a stone, on the skull, fracturing the parietal bone, a little below the protuberance, and to the right side, producing a broad, depressed fracture. Since that time he has degenerated into a condition of lunacy. His imbecility is so great that absolutely he can do nothing. Left alone his head hangs, his hands fall listlessly, and the vacancy of his face tells of the deep gloom that has settled upon his mind. He eats mechanically. All his functions are performed after a fashion, nor, indeed, can it be said with certainty that he is conscious of anything. At times, however, he becomes furious. During these fits he raves like a madman, and is so dangerous that handcuffs and other mechanical appliances have been found necessary to restrain him. As these attacks wear off, he relapses into his former condition of complete imbecility, so that, while he does exist, we may say that he does not live, that he merely vegetates.

"Applications ere now have been made to me to operate for his relief; but after examining him, and carefully reviewing his case, I decided that he was not a fit subject for the operation. Recently his condition has become so much worse that his family were induced to make another application, and at their urgent request a consultation of four of the faculty was held to consider the case. The decision was to operate with the full understanding, by these interested in him, that the remedy was a desperate one and only warranted by his deplorable condition.

"I cannot say that I think he will be benefited; it is one of those cases in which I cannot venture an opinion. But you saw the case on which I operated last month, and how great was the relief. True, that was a comparatively recent case, while this is an old one. And herein lies one of the chief dangers, for the circulation in the brain having accommodated itself to the abnormal condition of the parts, it is again disturbed by the operation, and again has to reaccommodate itself to the new order of things; and is required to do this in an abnormal and depressed condition of the system.

"Again, the patient himself cannot help us. He has no will-power, nor has he any thought for himself, or any consciousness of his condition. And, finally, he has but little vitality. His whole system has been depressed for a long time, and it may be that he has not even sufficient recuperative energy to rally from the immediate shock of the operation.

"He may be greatly benefited; I trust that he will be; he may recover from the operation, but with his condition unimproved; he may die during the operation, or he may die from its later effects.

"Thus you have the case before you. You see that it is one that no man would seek, but rather avoid as long as he could with justice. Still, after the operation has been decided as warrantable by a number of his professional brethren, a true surgeon could not fail to see his duty. Hence, it is with a full sense of the gravity of the case, and with a due appreciation of the solemnity of the occasion, on the issue of which hangs so much for the patient and his family, that I now proceed to operate."

The skull was then trephined, four crowns of bone being taken out, and the intervening portions of the bone cut out with the bone-nippers. The bone removed included all of the depressed portion:

"The operation was carried out as indicated, the patient being under ether, and the carbolized spray being used continuously. Two small branches of the occipital artery were ligated by Prof. C. S. Briggs, who, together with the hospital staff, assisted in the operation. Very little blood was lost, and the dura mater was untouched. A swall wisp of carbolized tow was placed in the wound to keep it partially open, thus permitting free drainage. The flap was secured by a single suture. A carbolized compress of tow was then applied, and lightly confined by a bandage. The patient was finally placed in the strait-jacket so that he might not do himself any injury on returning to consciousness.

"December 14th. I have to announce to you that the patient whom I trephined for lunacy is dead. The operation in every respect was performed in a correct way, and for a time after he appeared to be doing well. The next day he suddenly became much worse; had a rigor followed by great depression, but no fever, and he died suddenly that night."

I have reproduced nearly the whole of Prof. Briggs's lecture for its lucidity of style and correct reasoning. Many points have been dwelt upon by him that will not be necessary for me to consider a second time,

September 11, 1883, Mr. John P. B., of Colchester, Illinois, consulted me in regard to the advisability of having an operation performed to relieve his wife of insanity. He was accompanied by his wife and her father. The lady was a brunette, thirty-one years old, well nourished, of prepossessing appearance, and medium size. She had been insane for five years without any prolonged lucid intervals. For the last two years she had been in the asylum at Jacksonville. Eighteen years before she had been kicked by a horse, causing a depressed fracture of the skull at about the centre of the right frontal eminence. The depression was about an inch in length running diagonally downwards toward the nose. She recovered rapidly from the injury, there being at no time any symptoms of compression. In time she became somewhat erratic in her disposition, and gave evidence of being easily disturbed in her sleep. Still she made fair progress in her studies and became a good housekeeper. She married and had five children, three of them being born after she became insane. She was very seldom violent in her insanity, talked incessantly and used the most obscene language conceivable. The insanity had come on slowly and had been progressive. Her family and other physicians had advised the husband and father to remove her from the asylum and try to have her cured by an operation.

Sept. 13, 1883, at Blessing Hospital, in Quincy, she was brought under the influence of an anæsthetic, composed by measure of one part of ethyl bromide, three parts of chloroform, and four parts of alcohol, given by Dr. Charles Wesley Rook, and with the assistance and in the presence of Drs. I. T. Wilson, R. Woods, C. B. Ellis, and H. Hatch, the depressed portion of the skull was removed by taking out three pieces of bone with the trephine from a triangular space including the depression. The bone in the spaces between the openings made by the trephine was removed with the bone-nippers, and the edges of the opening rounded off and smoothed, making a circular opening in the skull of about an inch and a half in diameter. The bone was nearly half an inch thick, whereas, normally, at that place it is very thin.

The integuments that had been raised by a T-flap were brought down and together with catgut sutures, except at the lower angle, where a small rubber tube was inserted for drainage. She rested well the day following the operation in bed. The next morning, Sept. 14th, she was up and dressed, and but slightly incoherent.

From this day until Sept. 30th, she was perfectly rational and coherent.

On the evening of the 30th, she was excited, but not obscene or wild. The wound had healed perfectly; there had been no fever or other untoward circumstance at any time during the progress of the case.

On the morning of October 1st, her husband came to take her home. When she saw him she became very greatly excited and incoherent, using very obscene language, but at times would appear quite rational. He insisted upon her going home with him, much against my will as I felt that she needed still further the attention she could only get from trained nurses. After her arrival at home her husband wrote me that she became quite unmanageable, and continuing so, I advised that she be sent back to the insane asylum at Jacksonville, which was done.

The subjoined letter from Dr. Carriel will give an idea of her condition at the present time:

"Replying to your inquiry, I will say Mrs. John P. B., is now, and has been since her return, much deluded, and disturbed in mind: in fact, she has not been as well since her return as she was before leaving. I do not attribute this condition as resulting from the effect of the operation, but as the natural tendency of the disease. I see little reason to hope she will ever be better"

Thus there are reported in this paper four cases, all that I can learn. Of this number one died, one improved for a very short time and then became progressively worse, and two entirely recovered. The record, though short, shows, I think, that the operation of trephining should be resorted to oftener than it has been heretofore, and much earlier. The hope of recovery from earlier operative procedure is good and the condition of hopeless insanity is such that not one of us but would personally be willing to submit to any procedure for cure.

ON THE USE OF THE OBSTETRICAL FORCEPS AS A SPECULUM AND PROTECTOR TO THE VAGINA IN OPERATIONS UPON THE FŒTUS IN UTERO.

By JOSEPH PRICE, M.D., AND G. G. FAUGHT, M.D.,
OF PHILADELPHIA.

While fully subscribing to Baudelocque's dictum, that "the forceps has been more injurious than useful to woman," we are persuaded that it is the abuse, rather than the intelligent use of them, that has made this saying possible. We might have some hesitation in adding to the already seemingly replete literature of the obstetrical forceps—in which every obstetrician, and many not laying claim to such a title, has been in print with instructions how, when, and where to use them; we might be deterred by the seeming self-sufficiency of the mass of the profession, as shown in the societies by the levity with which questions relating to their use are treated, from claiming for them a use in addition to that of tractors and compressors; were it not that we find the records of gynecology scored over and over again with cases, the sad history of which, is the result of their reckless and unintelligent use.

The late Dr. John Parry gives the mortality of craniotomy as 37½ per cent.; according to Dr. Agnew (*Surgery*, vol. ii. page 821), "a fatality quite as great as that resulting from Cæsarean section." As a careful perusal of the writings of Schrœder, Tait, and others, shows how often this operation is followed by genital fistulæ, we have good reason to believe that lacerations and contusions of the soft parts are no mean factors in accounting for this heavy mortality.

The design of the present article is to call attention to the use of the forceps in craniotomy, as a protection to the maternal soft parts, and by retracting the vagina (and, if needful, the cervix) enable the operator to use craniotomy instruments safely and expeditiously. It seems to have been lost sight of by the profession, that the primal use of specula were for exactly this purpose; Abulcasis[1] so using them as early as the twelfth century.

In using the forceps after the manner referred to in the title, when the destruction of the fœtus is clearly and fully indicated, a pair of forceps, as wide in the blades as the diameters of the pelvis will permit, are applied in the ordinary manner, and used for fixation and compression of the head, while the vault is perforated and broken or folded up. If preferred by the operator, the blades may be separated to their respective sides of the pelvis, and held by assistants, recrossing and locking them when necessary to make traction and compression.

Writers on obstetrics report cases[2] in which the head was perforated, after ineffectual tractions had been made with the forceps, without removing the instrument, and the delivery subsequently accomplished safely. The use of the forceps in all these cases was, however, accidental—that is, the operator perforated the head, after he had ineffectually used the forceps as tractors, allowing them to remain on merely to save time and trouble by their subsequent reapplication. Dr. Rigby, of England, and M. Cazeaux, in France, recommend the forceps as extractors in embryotomy. This article claims the great value of the forceps, when craniotomy is designed, applied *intentionally, prior to perforation,* with the object of affording much greater facility to the operator in his manipulations, and of protecting, almost absolutely, the maternal soft parts from the injuries so common in the hands of even skilful operators, from slipping of instruments, etc. A prominent New York practitioner, who boasts "3000 cases and a year at Vienna," records the slipping of a cephalotribe *eight* times, the operation being finally completed with a blunt hook. Cases are known in which the cervix has been entirely cut away, and in which, in trephining the base of the child's skull, the mother's sacrum has been sawn into. Such injuries would certainly be done away with, if the operator has the vaginal tissues widely dilated by means of the forceps.

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[1] Quoted by Schrœder as Abulcasein.

[2] Hodge, Syst. of Obstet., pages 252, 272, etc.

To represent the utility of the forceps under such circumstances, we cite the following cases:

Case I.—M. B., æt. 21; primipara. In this patient the pelvis was of a masculine type, the child's head unusually ossified, and its dimensions large, absolutely and relatively. When Dr. Price saw her, she had been in labor for a long, but indefinite time —as the pregnancy was illegitimate, she had attempted to conceal the fact that she was in labor—and the child was dead. The hand was presenting at the vulvar orifice, which was very much swollen, and the woman's vital forces failing. The hand and arm were returned to the uterine cavity, and the head brought into position. As there was no expulsive effort whatever, the forceps were applied; traction, however, failing to engage the head, considerations involving the safety of the mother demanded prompt removal of the child. Without removing the forceps, craniotomy was quickly performed, after the method described. The mother's soft parts were entirely uninjured, and the woman made a prompt and satisfactory recovery. It seems scarcely necessary to state that version was not performed or attempted in this case, because it was believed that the safety of the mother would be greatly compromised by turning and dragging through contracted and inflamed tissues a large, *still* child.

Case II.—Mrs. D., æt. 28; second labor. The first labor, two years previously, had been a protracted forceps delivery. The present labor was seen in consultation; it was a summit presentation, and various forceps had been already unsuccessfully applied. A further attempt by Dr. Price was equally unsuccessful in engaging the head, its diameters being at least an inch greater than those of the pelvic outlet. The forceps being *in sitû*, a large male fœtus was removed after perforating and crushing the head. The patient's recovery was all that could be desired, and she has since borne a normal child, the labor being easy.

Case III.—A. G., æt. 22; primipara. Extreme angular curvature of the spine, and the pelvis was narrowed in the conjugate diameter to nearly two and a half inches. The head presented; the occiput was situated posteriorly and unengaged. Dr. Faught applied the forceps (Davis's), but was unable to move the head. Drs. Hampton and Price were called in consultation, and craniotomy was decided upon. At the suggestion of Dr. Price, the forceps (Hodge's) were first applied, the blades being separated to their respective sides of the pelves, and used as a speculum during the subsequent operative procedure. Except for a slight tear of the perineum made during the delivery of the shoulders, this was happily accomplished. The child was a male, and above the average size. The patient's recovery was uninterrupted and satisfactory.

MEDICAL PROGRESS.

Reactions of Albumen.—In a paper recently presented to the Academie de Médécine, M. E. Grimaux showed that solutions of amido-benzoic colloid acquire, by the addition of a small quantity of salt, the property of coagulating under the influence of heat, and he has determined that this phenomenon of coagulation depends both on the proportion of the coagulating agent and on the dilution of the liquid. The study of the reactions of thin solutions of albumen, shows that they become coagulable under the same conditions as the amido-benzoic colloid.

If to dilute solutions of albumen are added small quantities of salts, sodium chloride, sulphate of lime, sulphate of magnesia, hydrochlorate of ammonium, etc., they become coagulable by the action of heat. By the dilution of the albumen, as in the solutions of amido-benzoic colloid, the quantity of water added counteracts the coagulating influence of the salts.

Carbonic acid acts in the same manner as the salts. It is sufficient to cause a current of carbonic acid to pass into albumen to cause the liquid to coagulate at a low temperature. The same thing is seen, as already said, with the amido-benzoic colloid solution. This solution, to which a small quantity of sea-salt is added to cause coagulation in the cold, becomes coagulable when it is saturated by a current of carbonic acid. Albumen to which water is added is not modified. If, on the contrary, these solutions are heated, the albumen is modified. If solutions of albumen, containing one to one hundred of dry materials, are heated to 130° F., a few flocculi are seen to separate. The liquid, filtered clean, is not clouded on boiling, and only becomes opalescent. The action of carbonic acid, cold, causes a gelatinous precipitate which is reduced in a current of air. This precipitate disappears when the liquid is placed in a vacuum, above a solution of potash, or when, after having collected and washed it with water charged with carbonic acid, it is suspended in aërated water.

Dilute acetic acid causes a gelatinous precipitate easily soluble in an excess of acid, reappearing on neutralization with an alkali, and also dissolving in an excess of the latter. The addition of phosphate of soda to the solution of albumen, previously warmed, hastens the precipitation by carbonic acid, but not by acetic acid, and the liquid possesses the reactions of solutions of casein. Albumen, therefore, modified by the action of heat, becomes coagulable by heat when small quantities of sea-salt, sulphate of lime, sulphate of magnesia, etc., are added to it.—*L'Abeille Méd.*, June 30, 1884.

PORRO OPERATION.—DR. TUZZI performed this operation on June 19, at the Maternity in Milan. The patient was in the ninth month of utero-gestation. The operation has been thus far successful for both mother and child.—*Gazz. degli Ospitali*, July 6, 1884.

SURGICAL TREATMENT OF GALL-STONE.—MR. LAWSON TAIT has recently carried out his proposal to crush gall-stones by grasping the duct with the forceps. He crushed the stone with great ease by two strokes of the forceps. It was about the size of a cherry, and, after it was broken, the fragments dispersed, and they have given no trouble at all. Since the operation, only a very small quantity of mucous fluid, faintly tinged with bile, has come through the fistula, and the patient's motions are now quite normal in color. He intends to close the fistula in a few days.—*British Med. Journ.*, July 12, 1884.

M. PASTEUR'S HYDROPHOBIA EXPERIMENTS.—The experiments which M. PASTEUR is reported thus far to have made are said to be an unbroken success. Fifty-seven dogs have been the subjects of investigation. Of these, nineteen were rabid, and by these thirty-eight healthy animals were bitten under uniform conditions. Of the thirty-eight, one-half the number had been previously inoculated, or "vaccinated," with attenuated virus; the other half had not. The latter, without a single exception, died with unequivocal signs of rabies, whereas the nineteen others remain as well as ever. They will be watched for a year by veterinary surgeons to see whether the inoculation holds good permanently or only temporarily. If rabies be not spontaneous in its origin, and if the experiments of Pasteur all turn out successful, there seems no reason why canine madness should not be extirpated from our midst.—*Lancet*, July 12, 1884.

CHROMIC ACID AS A CAUTERANT IN DISEASES OF THE NOSE, PHARYNX, AND LARYNX.—In a recent communication on this subject to the Société française d'Otologie et de Laryngologie, DR. HERING refers first to the fact that chromic acid acts on albumen very much in the same manner as does nitric acid; it coagulates it, and also the mucous secretions, the saliva, and the gelatinous tissue of the bones. This explains the action of chromic acid on the pituitary membrane. Being used for preserving and hardening anatomical specimens whose form and structure it is desirable to maintain, it may be considered as an antiseptic. It arrests putrefaction in blood, muscles, and the urine. According to Dugal, its effect on the infusoria is greater than that of carbolic acid. It has been given internally by Bonnefont, Vincent, and Heyfelder, only in cases of inveterate syphilis, and Güntz has recently published a new method of treating syphilis by excluding mercury and administering chromic acid water.

It is well known that workers in chromic acid frequently have marked effects from its action on the nose, pharynx, and respiratory organs. A peculiar form of rhinitis is developed, the last effect of which is the destruction of the nasal septum and perforation of the cartilages. Curiously enough, Delpech-Hillairet states that snuff-takers are exempt from these effects. When applied to the healthy skin the acid only causes a yellow tint; but with the slightest excoriation pain and caustic effects follow.

To cauterize any particular spot, a small piece of charpie, covered with chromic acid, is placed on it. In a few seconds the charpie is transformed into a blackish mass, and at the same time there is some production of heat. The charpie then acts on the tissues in the same manner as the thermo-cautery, forming an eschar, the elimination of which, proceeding from the periphery to the centre, commences in from five to eight days. The falling of the eschar leaves a suppurating wound. Concentrated aqueous solutions, of one-half or one-third, do not cause pain when applied to condylomata. These simply retract and fall off without hemorrhage. The application being repeated, they disappear entirely, and leave a small ulcer, which readily heals.

When applied in a pure form, chromic acid is a powerful corrosive agent. As a corrosive, it is used for removing condylomata, papillomata, warts, lupus, carcinomata, and malignant ulcers. It may also prove useful in removing telangiectases and indurations of the cervix uteri. There are two principal objections to its general use in affections of the nasal mucous membrane. First, the inconvenience as to the quantity and the operative procedure, and, second, the fear of chromic acid poisoning. But these are due to the methods in ordinary use, and not to the remedy. Hering advises the following: Over an ordinary lamp one heats a small crystal of the acid on the end of a silver probe. When heated cautiously this crystal loses its water, and forms a viscid, thick mass, which soon hardens on the end of the probe. If the heat acts for too long a time, or too suddenly, the surface of the crystal is transformed into a green layer, friable and porous, and having no corrosive action. This method enables the operator to judge of the time for the application and the amount of pressure to be used in cauterizing a part. A glass rod may be used instead of a silver probe, or a piece of platinum or iron wire may be used. By this method very simple instruments are required. The operator touches lightly, and several times, the surface to be acted upon, and soon sees a small spot streaked with yellow, which gradually enlarges and becomes an eschar. To get a less cauterant effect, it is sufficient to plunge a glass rod into the brownish deposit at the bottom of a chromic acid bottle. This deposit is very aqueous, and less active than the burnt crystal.

When the chromic acid cautery is applied to the buccal and pharyngeal mucous membrane, only very slight pain is produced. Hering has never had a case of chromic acid poisoning after even frequently repeated cauterizations. He always follows them up with a washing of pure water, which is continued as long as the water comes away with a yellowish tint. When there is any danger of some of the chromic acid getting into the stomach he gives the patient a weak solution of bicarbonate of soda. When the cautery is applied to the larynx the patient should be made to cough and expectorate immediately after the operation.

Hering states that of all the means thus far used by him in the treatment of nasal catarrh, he has not found one which is equal to chromic acid in rapid and energetic action, especially in cases of thickening of the mucous membrane accompanied by obstruction and an abundant muco-purulent secretion, *without excessive redness of the mucous membrane.* The nose should be first washed out with a weak, tepid solution, and then the chromic acid applied to the tumefied parts on one side only. After this water is quickly thrown in. If the first cauterization does not produce the desired effect, the yellow eschar should be removed with the pincers, and a second application made, or several applications may be necessary.

In cases of adenoid hypertrophies Hering has had the best results with chromic acid. He has also been successful in destroying the pedicles of polypi, and in treating pharyngitis granulosa and pharyngitis hypertrophica lateralis, and hypertrophy of the tonsils. Care must be used in the last case when there is a cavity in the gland, lest a portion of the cauterant remain in the cavity. This treatment is not applicable to indurated hypertrophy of the tonsils. He has used the acid in the larynx, with success, in cauterizing the seat of two mucous polypi of the chords, which had been removed by Störk's forceps; also in cases of laryngeal ulcerations and in ulcerations of the chords, whether tubercular or syphilitic. The application causes scarcely any pain, and stops the cough. In all cases the acid must be applied with great care.—*Rev. Mens. de Laryngol. d'Otol. et de Rhinol.*, May and June, 1884.

Laparotomy for Volvulus.—This operation was performed at the Ospitale Maggiore, in Bologna, on April 19, by **Dr. Medini.** The patient was doing well on June 11.—*Gazz. degli Ospitali,* June 11, 1884.

Chancrous Lymphatic Abscesses.—Lymphatic abscesses, says **Dr. Verdier**, are a rare, but still possible complication of simple chancre. It is difficult to determine precisely the etiological conditions which are involved in their formation. From a pathogenic point of view, they are the result either of the introduction of the chancrous poison into the lymphatics, or of an intense lymphangitis which succeeds the irritation caused by the chancrous ulceration. Inoculation establishes the diagnosis between the two forms: positive in the first case, and negative in the second.

In all probability suppuration occurs at the interior or in the walls of the lymphatic vessels. The ulceration resulting from the spontaneous or surgical opening of these abscesses rapidly takes on the form of chancrous ulceration.

As regards the treatment, it differs but little from that of the simple chancre. Cauterizations give excellent results. In most cases nitrate of silver will suffice. For topical dressings, iodoform, aromatic wine, and calomel and pyrogallic acid pomades are very useful.—*Revue de Thérap.*, June 15, 1884.

Abscess of Cowper's Glands.—**M. Verneuil** reports the case of a man, æt. 62 years, who came under his care at La Pitié. For some time he had had symptoms of dysuria. These finally became very pronounced; urination became extremely painful, and the desire frequent. Examination showed a stricture of the membranous portion of the urethra.

M. Verneuil diagnosticated stricture of the urethra, and ordered a bath and a purgative, and next day passed a No. 3 bougie, the size being then changed every two days, until a No. 9 was passed. This was soon followed by an attack of orchitis, and this by an exudation into the tunica vaginalis, which afterwards became encysted. Dilatation of the urethra was kept up, and the patient left the hospital able to pass a No. 15. He returned in about three weeks, with a large swelling of the right side of the scrotum; this was due to abscess formation, which opened in five days. Three days afterwards the patient died.

The autopsy showed the bladder small and retracted, and its walls thickened. A No. 7 sound could be passed *per urethram.* Near the prostate a small quantity of pus was found. On dissection, a small cavity was found, filled with phlegmonous, greenish pus. It was situated at the posterior part of the urethra, related anteriorly with the membranous portion of the urethra, and behind with the bulb of the urethra and the perineal muscles, above with the prostate, and below with the bulb. In the opinion of Verneuil and Cornil, this was a case of abscess of Cowper's glands.—*Progrès Méd.*, June 14, 1884.

Water as a Diuretic.—In an article on the action and use of diuretics, in the *Practitioner*, May, 1884, **Dr. T. Lauder Brunton** says that water is, perhaps, the most powerful diuretic we possess, although fewer experiments have been made with it upon animals than with the others. The diuretic action of water drunk by a healthy man is very marked, and it appears impossible to explain its elimination by a mere increase in blood-pressure, whether general or local. It has the power of increasing tissue-change, and thus multiplying the products of tissue-waste which result from it, but it removes these waste products as fast as they are formed, and thus, by giving rise to increased appetite, provides fresh nutriment for the tissues, and thus acts as a true tonic. In persons who are accustomed to take too little water, the products of tissue-waste may be formed faster than they are removed, and thus accumulating may give rise to disease. If water be freely drunk by such persons, the product of waste will be removed, and health maintained or restored. Many gouty persons are accustomed to take little or no water except in the form of a small cup of tea or coffee daily, besides what they get in the form of wine or beer. In such people a large tumbler of water drunk every morning, and especially with the addition of some nitrate or carbonate of potassium, will prevent a gouty paroxysm. Still more numerous, possibly, is the class of people who arise in the morning feeling weak and languid, more tired, indeed, than when they went to bed. Many such people are well fed, they sleep soundly, and it seems almost impossible to believe that the fatigue which they feel in the morning can result from imperfect nutrition, more especially as one finds that after moving about, the languor appears in a great measure to pass off. It seems that this languor must depend upon imperfect removal of the waste products from the body, as we know that the secretion of urine in healthy persons is generally much less during the night than during the day. Such people should drink a tumbler of water before going to bed in order to aid the secretion of urine and of the waste products during the night. In some cases, though not in all, the result has been satisfactory, and possibly might have been still more so, if the bicarbonate and nitrate of potassium, which are so useful in cases of gout, had been added to the water.

Lately a plan of treating gout by draughts of water at intervals during the day has been a good deal employed, and is in many cases successful. The following is the diet used along with this treatment by a medical friend:

7.30 A.M. Ten fluidounces of very hot water. 8 A.M. Breakfast: equal parts of weak tea and milk, a small quantity of white sugar, a slice of fat bacon without a strip of lean, bread, and fresh butter. 1 P.M. Milk-pudding, rice, sago, tapioca, macaroni, or blanc mange, and small biscuits with butter, ten fluidounces of hot water. 4 to 5 P.M. Ten fluidounces of hot water. 6 P.M. Dinner: white fish or fowl (usually boiled), greens, bread, no potatoes, claret seven fluidounces. 8 to 9 P.M. Ten fluidounces of hot water. 11 P.M. Ten fluidounces of hot water.

If he indulges either in meat or game, or drinks copiously of claret, or omits one or two glasses of hot water, he feels gouty and gravelly next day. It is obvious that by this plan of treatment, in which the ingestion of nitrogenous food is most strictly limited, at the same time that every facility is given for the elimination of the products of nitrogenous waste by the large quantities of hot water drunk in the course of the day, the accumulation of waste in the tissues ought to be most effectually prevented.

THE THERAPEUTICS OF PUERPERAL RUPTURE OF THE UTERUS.—DR. T. KRONER gives a table of 47 cases of rupture of the uterus, 19 being complicated, 10 uncomplicated, and 18 doubtful cases, all the cases having occurred during and since the year 1873. Of the complicated cases, 11 died—3 in twenty-four hours, 1 in thirty hours, 1 in twenty-one hours, 1 in thirteen hours, 1 in eight hours, 1 in a "short time," 1 in three days, 1 in five days, and 1 in seven days. Of the uncomplicated cases, 5 died—1 "soon," 1 in six hours, 1 on the next day, 1 in three days, 1 during labor. Of the 18 doubtful cases (doubtful as regards peritoneal complications), 9 died—1 in twenty-four hours, 1 in twenty-two hours, 1 in two hours, 1 in twelve hours, 1 in an hour and a half, 1 in forty hours, 1 in half an hour, 1 in three days, and 1 time not stated. In the whole number of cases only one primipara is mentioned, although in some of the cases no mention is made of the number of labors. Of the cases in which this is mentioned, rupture occurred 4 times in 2-paræ, 3 times in 3-paræ, 8 times in 4-paræ, 3 times in 5-paræ, 3 times in 6-paræ, 2 times in 7-paræ, 1 time in an 8-paræ, 3 times in 9-paræ, 1 time in a multipara. Rupture occurred 3 times in one patient, with recovery. Rupture followed the administration of ergot in 2 cases.

Of the whole number of cases, therefore, there were 25 deaths, and 22 recoveries. The fact that there were so many recoveries makes the tables especially interesting. Of these, 8 were cases of perforating rupture, with partial or total extrusion of the fœtus into the abdominal cavity. The shortest time of recovery without drainage was eighteen days; with drainage, fourteen days; the longest without drainage was seven weeks; with drainage, nine weeks. It would seem that good natural drainage, by a compress around the abdomen, is all that is necessary.

Besides the cases tabulated, Kroner reports a personal case—3-para, rachitic—in which rupture took place one hour after the rupture of the membranes. The child was delivered dead. The placenta slipped into the abdominal cavity, between the anterior uterine wall and the abdominal wall, and was removed with the hand. The uterus was washed out with warm carbolized water. The after-treatment consisted in the administration of opium, ice-bags over the abdomen, warm fomentations, and mild laxatives. The patient had diffuse parametritis, and an attack of remittent fever. The temperature became permanently normal in five weeks, and the patient was well in seven.

In none of the cases was the abdominal cavity opened. The usual treatment was, in the main, that used by Kroner in his successful case, local bloodletting being also used in some cases.—*Centralbl. für Gynäk.*, June 14, 1884.

EXTERNAL ŒSOPHAGOTOMY.—At a meeting of the Moscow Surgical Society, DR. A. S. KNIE (*Letopsis Khirurgitches Obshtchest.*, No. 8, 1884) related the case of a man aged twenty-two, who swallowed a piece of bone during a hasty dinner, and in whom, eight days later, œsophagotomy was successfully performed after all other attempts at dislodging or extracting the foreign body had utterly failed. The swallowing of solid food became impossible; that of fluids painful. The patient considerably lost flesh and grew weak from insufficient nutrition, sleeplessness, and fever, and began to expectorate a fetid purulent discharge, stained with blood. A sound detected that the foreign body was impacted at the level of the manubrium sterni. On the ninth day Dr. Knie, assisted by Drs. A. Belaieff and W. Schkott, made an incision along the internal edge of the left sterno-cleido-mastoid muscle, from the cricoid cartilage down to the sternum, and found his way to the œsophagus between the cervical vessels and the larynx. While the operators were examining the gullet with the fingers, fetid pus and mucus began to escape from the wound, thus clearly showing that a perforation already existed. The hole being enlarged, the foreign body was (with considerable difficulty) extracted by means of forceps. It proved to be a piece of bone 3 by 2 centimetres, with four very sharp angles, and rough surfaces. Under antiseptic after-treatment, the œsophageal fistula closed on the fifteenth day, and the patient was discharged cured four weeks after the operation. After an able general discussion of cases of foreign bodies in the gullet, the author strongly insists on the necessity of energetic treatment. Touching the results from external œsophagotomy for foreign bodies, Dr. Knie estimates the recoveries at about eighty per cent.—namely, of thirty-three cases collected by König in *Deutsche Chir.*, Fasc. 15, p. 120, twenty-six were successful; to these the author adds his case and two successful cases of Monastyrsky, in the *Vratch*, No. 6, 1882.—*London Medical Record*, June, 1884.

TRACHEOTOMY IN CHILDREN UNDER TWO YEARS OF AGE.—This is the subject of a recent inaugural dissertation by GUSTAV CHAYM. Trousseau took the position that in children under two years of age tracheotomy for diphtheria was contraindicated on account of the undesirable consequences.

At Prof. Küster's suggestion, Chaym collected material on this subject—almost one thousand cases. As regards the mortality, there were fifty-six cases of tracheotomy in children one year old; eighty-four per cent. died, and of nine hundred and twenty-one of two years of age, eighty-five per cent. died, while the average mortality of tracheotomy for diphtheria fell to between sixty-seven and seventy-five per cent. As to the mooted question whether the operation gives better results in hospital or private practice—it seems that they were better in the latter. The causes militating against the success of the operation in these young subjects are, the slight power of resistance of very young children, the occurrence of dentition, the disposition to reflex cramps, the difficulty of properly nourishing them, the extreme mobility of the trachea, the weakness and narrowness of the air-passages, and the consequent dangers of wounding the œsophagus and other important anatomical structures.

Howard Marsh states that tracheotomy on a young child with a short and fat neck is a most difficult and tedious operation. For the *technique* of the operation, Chaym recommends the high operation, which, by Bose's oblique section of Hüter's thyro-laryngeal fascia, gives room enough, and also advises section of the cricoid cartilage. A canula of 4 mm. is also recommended. The after-treatment must be conducted with the greatest care. For troubles of deglutition the temporary tamponade is recommended, the best being the glycerine-wadding above the canula, as used by Israel. —*Deutsche med. Wochenschr.*, July 3, 1884.

THE CARRIERS OF INFECTION IN PUERPERAL FEVER. —LOMER read a paper on this subject before the Gesellschaft für Geburtshilfe und Gynäkologie, on March 28, 1884. Pathologico-anatomical researches show these to be chain-forming, round, and non-moving micro-organisms, in the diphtheritic layers of the uterine mucous membrane, in the uterine tissue, the peritoneal exudation, the lymph-spaces of the diaphragm up to the pleural cavity, in the kidneys, and in every other organ.

In two puerperal fever patients, Lomer found them once in pemphigus vesicles in large number fourteen days before death, in the other case four days before death, in the blood. After death they were found in all the organs.

The culture-experiments of Dr. Franovik, not yet concluded, show that the pure cultures differ both from the micrococci of diphtheria found by Löffler, and from the erysipelas-cocci found by Fehleisen. The inoculations of pure cultures made by Fränkel and Doléris have not, up to the present time, given constant and agreeing results.

Besides the chain-forming micrococci, other micro-organisms were found in puerperal fever, which seemed to indicate mixed infection. Clinically, however, these cases did not differ from the others in which only the chain-like micrococci were found. Lomer further reports three cases of puerperal fever, in which the micrococci were not found even after the most careful search made in the Royal Health Office.—*Deutsche med. Wochenschr.*, July 3, 1884.

EXTIRPATION OF THE KIDNEY.—At the meeting of the Medico-Chirurgical Society of Glasgow, on March 7, 1884, DR. MACEWEN showed a patient from whom the right kidney had been extirpated. The patient was admitted into the wards in an emaciated, semi-delirious condition, with high temperature and weak pulse. The history available at the time was of the most meagre description, and to the effect that he had been troubled with a urinary affection for about a year previously. His urine was loaded with pus. On examination, microscopically, a few tube-casts containing pus-corpuscles were seen, along with numerous crystals of phosphate of lime. There were dulness and swelling in the right renal region, which was painful on deep pressure. The diagnosis was renal calculi with abscess of the kidney.

Within the first twenty-four hours of his admission into the hospital, it was evident that he was sinking, and that something would require to be done at once for his relief. It was thought that the renal calculus might be removed while the abscess could be opened and drained. The renal calculi were removed; one from the pelvis of the kidney of irregular form, one of its projections situated in the ureter; the other from the substance of the gland. The kidney was found to be riddled with abscesses, and as it was apparent that it could no longer perform its secretory functions, it was removed. The patient recovered from the operation with remarkable rapidity.

DR. GAIRDNER said that the course of events in these cases was something like this. Along the ordinary channel pus was discharged for a considerable period for a greater or less period, this going on interminably. If the patient does not succumb, then there came a time when the kidney was structurally and functionally destoyed. If an opening were now made externally, pus was discharged in this way, and this might go on indefinitely. The next step was that of waxy degeneration, or Bright's disease. It was perfectly clear that, if they were satisfied that the kidney was permanently disabled, they might save the patient's life by having recourse to the operation for its removal.—*Glasgow Med. Journ.*, July, 1884.

THE ANTI-EPILEPTIC ACTION OF BROMIDE OF POTASSIUM.—In the *Neurologisches Centralblatt*, No. 2, 1884, DR. P. ROSENBACH has an article on this subject. Bromide of potassium administered to animals decreases the excitability of the cerebrum, so that stronger currents are necessary in order to call out, through irritation of the motor centres, the minimal disturbances of the corresponding muscle groups. This has already been ascertained by Albertoni. Rosenbach now concludes that the cerebral cortex is the point of origin of epilepsy and of epileptic attacks, and has undertaken to determine upon what part of the cerebral mass bromide of potassium acts more particularly. With this view he irritated the motor region of the uninjured gray matter, and after destruction of the same, both before and after using the drug. From this it was determined that on sufficient intoxication with bromide of potassium (in dogs) the excitability of the cerebral cortex diminished, or entirely disappeared, whilst the excitability of the underlying substance remained almost unchanged.—*Deutsche med. Wochenschr.*, July 3, 1884.

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CHOLERA DISINFECTION.

WE have given briefly in these columns the means to be employed to prevent the introduction of cholera into the United States, and we now invite the attention of our readers to the best means of combating the disease should it once obtain a foothold here. It is understood, from what has already been said, that municipal cleanliness is absolutely necessary to prevent the germs of the disease from multiplying outside the human body, and the only question with which we have now to deal is, What is the best plan that can be adopted to destroy the germs as they pass from the cholera-infected person?

Cholera is not transmitted by contact, but by an organic infecting matter, passed with the evacuations of those affected, which must gain entrance into the intestinal canal to produce cholera in another. In this lies the whole secret of an effectual preventive treatment, if we can destroy the organic infecting matter the instant it has passed from the patient, cholera cannot spread; or, what amounts to the same thing, if we can prevent the infecting matter of the cholera dejecta from reaching the intestines of other persons, we prevent them from getting cholera. Our efforts in this direction, therefore, constitute the true preventive treatment of this disease. If we can only preserve the drinking water from contamination, it is impossible for cholera to become epidemic. The leading principles upon which we must rely for effecting this object are, first, to destroy the organic infecting matter as it passes away from the patient by means of a solution of corrosive sublimate, or of sulphate of iron, or by some acid reagent, taking care that the evacuations thus treated are buried in the earth away from wells or sources of water supply; and secondly, to disinfect or destroy all articles of clothing, furniture, or, in fact, anything to which the choleraic discharges could adhere.

The popular idea of a disinfectant is a something which will destroy a "bad smell," while the fact is, such destruction may not affect the fomites of cholera, which are almost odorless. A cholera disinfectant must be a germicide, or it is worthless.

The simplest and cheapest disinfectant for this purpose is a solution of bichloride of mercury or a saturated solution of sulphate of iron (copperas). A solution of bichloride of mercury is readily made by adding an equal quantity of common salt as a solvent, and dissolving in water in the proportion of 1 gramme of the mixture to 1000 cubic centimetres of water, or 1 ounce to 8 gallons of water; and a saturated solution of copperas by dissolving all the powdered copperas a given quantity of water will take up. Both of these disinfectants are entirely odorless, and the former colorless.

A small quantity of either of these solutions should be placed in the vessel receiving the discharges from a cholera patient, and another portion poured over them immediately after the vessel is used. Then the contents of the vessel should be emptied into the water-closet, buried, or, better still, thrown into a furnace. All clothes or other domestic articles that can be washed which have been contaminated, should be soaked in a solution of one or the other of these disinfectants, and if the furniture or floor has received any of the fomites, it too should be thoroughly washed with the bichloride solution. These solutions can be used about the premises, if necessary, with a sprinkling-pot, and all suspicious places wet down and thoroughly disinfected.

There are many other cheap disinfectants, but they are open to the objection of disagreeable vapors, such as chloride of lime, carbolic acid, sulphurous acid, etc. The bichloride solution, besides being odorless, is no more dangerous than any other disinfectant that can be named, while it is more cleanly and quite as readily prepared, as well as being cheaper than the now favored carbolic acid.

Isolated hospitals for cholera patients who are unable to provide for themselves, and their immediate removal to these hospitals upon the appearance of the first symptom—the *malaise* which usually precedes cholera—would simplify the management of the disease, and with absolute cleanliness, proper disinfection, a well-regulated diet, and unpolluted water, all fear of an *epidemic* of cholera in the United States may be dismissed, even should it escape our quarantine guards and appear in our midst.

ANTIPYRIN: THE NEWEST ANTIPYRETIC.

The search for a substitute for quinine, although not successful in the main object thus far, has been fruitful in the discovery of new remedies. Amongst these may be mentioned, resorcin, quinoline, pyrocatechin, hydroquinone, and kairin. All of these are synthetical products. The last mentioned of this group, kairin, has proved remarkably effective as an antipyretic. All of them have been successful in varying degrees as antiseptic and antipyretic remedies, but they do not reach the peculiar eminence hitherto attained by quinine only. But this partial success has greatly stimulated the productive activity of chemists engaged in these researches, and their efforts have been rewarded by the discovery of antipyrin. This very appropriate designation is applied to an artificial alkaloid produced synthetically by Dr. L. Knorr, of Erlangen, by the action of acetic ether on aniline. It is also obtained by oxidation from quinoline or chinoline, one of the antiseptics mentioned above. It has been patented by Dr. Knorr, for whom it is manufactured by Messrs. Meister, Lucius, and Brünnig, industrial chemists.

Antipyrin occurs in the form of a white crystalline powder, having a slight aromatic odor, and a somewhat bitter taste, which may be effectively disguised by solution in some medicated water or in wine. It is readily soluble in water, in the proportion of one to three. The dose for an adult as an antipyretic is from 15 to 30 grains, given at intervals of an hour, until 75 or 90 grains have been taken. This quantity can be administered without causing inconvenience except, in rare instances, vomiting, according to Dr. Ferdinand May, who has experimented with it in the Municipal Hospital of Cologne, and publishes his results in the *Deutsche med. Wochenschrift*, No. 24, 1884. In the same issue of this journal we find a paper by Dr. C. Rank, of Stuttgart, on the use of antipyrin in febrile affections, employed chiefly by the hypodermatic method. Its ready solubility, and the absence of any resulting important local injury, render it especially available for this mode of administration.

The first investigations of the physiological action of antipyrin on animals and on man, were made by Filehne, and appeared in the *Zeitschrift für klin. Med.*, Band vii., Heft 6. The papers quoted above have followed. Besides these, a short note on some clinical experiences with the new remedy appears from Dr. Paul Guttmann in the *Berliner klin. Wochenschrift* for 19th of May, last. From these sources, we lay before our readers, a succinct account of the action and uses of a remedy which appears to be, from the present state of opinion, the nearest approximation to a substitute for quinine hitherto discovered.

The effect for which it has thus far been employed is the antipyretic, and in various acute and chronic febrile affections. The influence on the temperature of fever has been constant, although not to the same degree in all individuals. The maximum depression of temperature is attained in from three to five hours after the commencement of the treatment. The effect is maintained for from seven to nine hours, and in some instances is prolonged to twenty hours. The pulse decreases in frequency as the temperature declines, but the two functions do not maintain an absolute ratio, and the respiration is not affected. Children and weak adults are more readily influenced by it, and therefore require less of the medicament to produce a given result.

Rank embodies in some formulated conclusions the results of his observations. He finds that antipyrin is an antipyretic of the first importance in all the acute febrile affections; that by subcutaneous injection the effects are produced more decidedly and more promptly than by the stomachal administration, and that a less quantity of the remedy suffices, thirty grains being equal in power to twice that quantity given by the mouth; that a concentrated solution, 15 grains in 8 minims of water, can be employed by the hypodermatic method, without any local injury or accident, and that about twice the quantity of antipyrin produces the effects of a given quantity of quinine, for which it appears to be an efficient substitute.

The charts which illustrate May's articles exhibit, in the clearest manner, the constant influence of antipyrin on the temperature and pulse. As compared with kairin, it presents an important advantage which Guttmann has emphasized: the rise of temperature which comes on after the depression is not so abrupt, nor is it preceded by a chill, the maximum heat being attained in about the time occupied in reaching the minimum produced by the administration of the remedy. Although it is conceded by the observers quoted that whilst the pulse and temperature maintain a certain regular ratio, the respiration is not affected. One of the observations given by May is opposed to this view, for after forty-five grains of antipyrin the number of the respiratory movements fell from 30 per minute to 18, in the same ratio as the decline in the pulse and temperature. Further investigation is needed to decide this point.

Kairin and quinine are the agents with which antipyrin is to be compared. Guttmann, who makes some observations on the comparative antipyretic action of these three remedies, concludes that antipyrin is superior to kairin, but that in corresponding quantity quinine is more effective than antipyrin. Thus far we have had no observations on the use of the new remedy in malarial fevers, which will be the *experimentum crucis*, as regards its curative powers. There can be no advantage in the administration of antipyrin, as respects price, at the present time. A large demand will, of course, lessen the expense of production, but as a monopoly will exist in the person of the holder of the patent, the price can be artificially maintained.

In concluding, we cannot withhold the expression of our conviction, that an American physician would not have patented such a beneficent discovery. We are sure, had he done so, that he would experience the reprobation of the whole profession, a fact which shows that if we may not possess the scientific training of our German colleagues, we are more mindful of certain ethical principles.

DRAINAGE OF CEREBRAL ABSCESS.

In a timely article contributed to the *American Journal of the Medical Sciences* for July, Dr. Fenger and Dr. Lee, of Chicago, record a most interesting case of abscess of the brain the result of shot wound, which terminated in recovery after trephining, draining, and washing out the cavity with antiseptic solutions. The result affords a capital illustration of the fact, which few surgeons of the present day will deny, that a cerebral abscess should be treated upon the same principles as an abscess of any other organ or region.

One of the great difficulties in the treatment of cerebral abscess consists in locating the precise seat of the lesion. Not a few cases have been reported in which, after the skull had been opened, the knife or trocar missed the abscess, and the patient died unrelieved. This embarrassment may be obviated by multiple exploratory aspirations, conducted with a syringe, provided with a needle four inches long, with a rounded instead of a cutting point, through which division of small bloodvessels is obviated. The procedure, which was originally practised by Renz, in 1867, was adopted in the case under consideration, and the needle served as a guide, along which a pair of forceps was passed for the evacuation of the pus.

It would appear from this paper, as well as from one published by Dr. Amidon in The Medical News for June 21st, that up to the present time only three cases of cerebral abscess have been treated by drainage. In that of Burchard, the tube was inserted along the track of the projectile; in that of Fluhrer, also one of pistol-ball wound, the projectile was extracted through a counter-opening, and a tube passed through and through; while in the case of Fenger and Lee the drain was carried into the cavity of the abscess through the track made by the forceps to evacuate it.

That drainage should in similar cases be practised on general principles, is attested by the remarkable fact that the three cases in which it was resorted to recovered. The truth of the matter is that the sooner we learn to regard a cerebral abscess in the same light as an abscess elsewhere, the better it will be for our patients. To tap and drain a collection of pus in the brain is not a bold or hazardous procedure; the danger consists in letting Nature pursue an unaided course; and in the present state of our knowledge of the advantages of antiseptic surgery, the practitioner will be deemed bold indeed, who idly waits for "spontaneous resolution."

ANTISEPTIC OBSTETRICS.

The subject of antiseptic obstetrics has attracted so much attention lately that our readers will be glad to know the methods adopted, and the results obtained in the famous Rotunda Hospital of Dublin. The Master, Dr. Macan, in his last annual report states that during the year ending November, 1883, 1090 women were delivered, and only 6 died; the mortality was, therefore, 0.55 per cent., or 1 patient in 181.6. The usual mortality in childbed, as estimated by both the late Dr. McClintock and Dr. Matthews Duncan, is 1 in 120 in private practice.

For the prevention of septic infection, the students and nurses are required, before examining a case of labor, to wash their hands in a 1 to 40 solution of carbolic acid, and carefully use a nail-brush, afterward dipping them in a 1 to 1000 corrosive sublimate solution. Further, in order to lessen the frequency of vaginal examinations, the students are taught to palpate the abdomen, and thus to recognize not only the presentation, but also the exact position of the child's head, back, and limbs.

As soon as the child is born, the patient is turned upon her back to prevent the entrance of air into the uterus, and her genitals are never touched after delivery except in case of hemorrhage, ruptured perineum, or retained placenta. Before stitching a ruptured perineum, the vagina is washed out with the 1 to 40 carbolic acid solution; and if the hand is introduced into the uterus, the uterine cavity is similarly washed out, or with a 1 to 2000 corrosive sublimate solution.

The vagina and external genitals are carefully washed before every operation, and the uterus syringed out afterward, and a pessary containing one drachm and a half of iodoform passed to the fundus, and left there.

The tubes used for vaginal or uterine injections are of glass, one for each bed, and they are kept in carbolized water. To prevent the entrance of air, which may be immediately, or remotely dangerous, the old India-rubber siphon syringes have been replaced by irrigators which act by gravity. Gum-elastic catheters have been banished, and only silver instruments are used.

Dr. Macan holds that if the prophylactic precautions taken during labor are sufficient, there can be no necessity for any prophylactic antiseptic injections, whether vaginal or uterine, in the puerperal state, and he never allows them to be used either in hospital or in private practice. The external genitals are not even washed with antiseptic solutions, but with warm water, a piece of oakum instead of a sponge being employed. No antiseptics are used on the napkins applied to the external genitals.

The very low mortality observed in the Rotunda under this method of treatment is strong testimony in its favor. Nevertheless, we do not believe the question of childbed mortality can be settled by one year's experience in a single hospital, for just as there are practitioners who claim to have attended five hundred, or even one thousand labors without seeing one case of puerperal septicæmia, so there are years when the mortality of maternities may be very slight. A question like this must be decided by observations continued for a long time, and by inductions based on a large number of cases.

THE TREATMENT OF ABORTION.

DR. MACAN, in the report to which we have just referred, states that during the year 16 cases of abortion were admitted to the hospital. The treatment was expectant as long as possible, and in none was the vagina plugged, but in case of excessive hemorrhage before the cervix was sufficiently dilated to allow removal of the ovum, the cervix was plugged with a tupelo tent, or dilated with Hegar's instrument, and the ovum removed. When any part of the ovum remained, causing putrid absorption or hemorrhage, the uterus was well washed out with the corrosive sublimate solution, the curette used, and then the corrosive sublimate again, and in septic cases, in addition, an iodoform suppository was introduced.

The record of Dr. Macan's practice is a contribution to the subject of the proper management of inevitable abortion, a topic that has attracted much attention in recent years in this country. The profession, in fact, is yet divided in opinion, some advocating immediate and active interference—attacking *vi et armis*, that is with big and little curettes—and emptying the uterus as promptly as possible; while others more conservative, or at least less radical, prefer an expectant course, letting their action depend upon events, persistent or severe hemorrhage, or an offensive discharge, being signals for immediate evacuation of the uterus.

NO CHOLERA OR YELLOW FEVER IN THE UNITED STATES.—The reported cases of cholera on the Mississippi River Steamer Annie P. Silver, and of yellow fever at New Orleans, have fortunately both turned out to be false alarms. The first report arose from the statement of a Dr. Pease, at Port Anderson, on the Mississippi River, who claimed that a child belonging to a family direct from Toulon had died on the steamer, and was buried at that place. Steps were immediately taken by Surgeon-General Hamilton to ascertain the facts, when it was definitely settled that the child died of summer complaint, and the family had never been to Toulon, but were from Mexico, and had been in New Orleans for some time before taking passage on the Silver. The yellow fever scare was occasioned by a suspicious death in New Orleans, which a post-mortem examination settled as not yellow fever.

SPECIAL ARTICLE.

THE RATIONAL TREATMENT OF GOUT, URIC ACID GRAVEL, AND ACUTE RHEUMATISM.

IT IS one of the encouraging facts in connection with the development of our science, that we are certainly acquiring a more accurate knowledge of those metabolic processes, without a correct understanding of which our treatment of the affections known as derangements of nutrition must remain empirical and uncertain. The latest contribution to such knowledge is a brochure by DR. P. W. LATHAM, Downing Professor of Medicine at Cambridge, Eng., "On the Formation of Uric Acid in Animals and its Relation to Gout and Gravel."

Rejecting, in common with most modern physiologists, the older view that uric acid is the result of imperfect oxidation of tissues, he ascribes its formation in the human subject partly to defective assimilation, and partly to a "condensation process," in much the same way that cyanuric acid and biuret are condensation products of urea.

In the human subject, glycocine united with cholic acid, is poured into the intestine as glycocholic acid, a constituent of bile. After the bile has served its purpose in digestion, the glycocine and taurine of the taurocholic acid, with the leucin and tyrosin arising from albumen-digestion, are converted by the liver-cells into urea, which is returned to the blood, and reappears in the urine.

The appearance of uric acid in the secretion of one animal, and of urea in another, is the result primarily of the non-conversion of glycocine into urea, whether that glycocine be derived from the bile poured into the duodenum or formed elsewhere in the body. That it is from the bile is probable from the fact that in the carnivora, whose urine contains little or no uric acid, the bile contains only taurocholic acid, and therefore no glycocine.

Now, as to the abnormal formation of uric acid in the human economy. Just as in diabetes the liver or some other part is unable to effect the metabolism of the glucose, which then passes into the circulation and is discharged by the kidneys, so in gout or gravel the imperfect conversion of glycocine is the primary and essential defect. It passes from the intestine or elsewhere into the liver, through whose agency it is united with the urea resulting from the metabolism of leucin and tyrosin, and is converted into hydantoin, which passes into the blood and thence to the kidneys to be combined with another molecule of urea, forming ammonium urate, a portion of which overflows into the circulation and is converted into sodium urate.

Thus can be explained the effects of the sluggish liver in certain free eaters and drinkers. But as not every toper and gourmand develops gout, and every gouty person is not necessarily a toper or gourmand, Dr. Latham suggests that we look further, say to the nervous system—the medulla or spinal cord, or both —for some etiological change, which may be either hereditary or acquired. This may be primary in the nervous system, affecting the digestive apparatus through the vagus if in the medulla; or affecting the joints, through the spinal nerves if in the cord. Or it may be primary in the liver, and the accumulated uric acid in the blood affect the medulla and cord secondarily, and in turn produce nutritive changes, or inflammation in the joints connected with that part of the cord.

Important corollaries are deducible from these facts as to why gout does not generally appear until after middle life, and as to its association with chronic lead-poisoning, both of which furnish a kidney more or less crippled, which in its sound condition could have thrown off the uric acid. So, too, the phenomena of rheumatism may be similarly explained, supposing the lactic acid poison to result from a like defective metabolism, while the curative action of salicylic acid may be due to its combining with the antecedent of lactic acid, thus stopping its formation. This view is supported by the fact that mental or muscular fatigue, worry, or excitement will often induce an attack in those predisposed to gout, and a farther parallelism between gout and diabetes is thus established.

If, in consequence of simple imperfect assimilation, glycocine passes unaltered into the circulation, it may there be changed into carbonic anhydride and methymaline, which latter is instantly decomposed into ammonium, hydrogen, and oxalic acid. Thus may be developed the so-called oxalic diathesis, with all its accompanying nervous symptoms, not unlike those which are the precursors of gout, and which may be produced by errors of diet, and by the direct administration of oxalic acid. The effect of oxalic acid on the nervous system may be such as to intensify the force concerned in the production of urea, and so give rise to increased metabolism of the tissues and further formation of urea.

As to the application of these principles to the treatment of gout and uric acid gravel, moderate but not over exercise, tempered to suit the age, more for the young, less for the old, walking and riding are recommended; also a diet simple and nutritious, jellies and food containing gelatine being avoided, because the latter contains glycocine. Animal food, according to Dr. Latham, will not produce uric acid in a healthy system, as is shown by its absence from the urine of carnivora, but from all kinds of meat a certain amount of glycocine is produced, and even if the remaining nitrogenous part is converted into urea, the glycocine necessitates an increased elimination and consequently taxes more severely the powers of the kidneys. If these are weakened, the urea, and still more the uric ucid, accumulates in the blood. The simpler the diet, the less tax there will be upon the kidneys. It may be farinaceous, with just sufficient nitrogenous food to satisfy the wants of the system, and in acute attacks, let that be in the form of milk, diluted if necessary.

Dr. Latham refers to the striking benefit and increased urinary secretion which result in some forms of albuminuria from skim-milk, the simplest of all diets. A further explanation of the benefits of such a diet, and a further confirmation of Dr. Latham's views, are found in urinalysis. Dr. John Marshall, of the University of Pennsylvania, in a series of analyses of the urine of persons upon a pure skim-milk diet, found that in the total secretion for twenty-four hours of such persons no appreciable amount of uric acid could be found. A fuller statement of Dr. Marshall's results may be found in the paper of Dr. Tyson, on the "Milk Treatment of Disease," published in the *Journal of the American Med. Assoc.*, for June 7th.

The accumulation of glycocine being thus diminished, when present, it is to be eliminated by such gentle laxatives as promote the discharge of bile from the intestines after it has been secreted. Such a laxative is calomel, and also rhubarb, a few grains with double the quantity of magnesia daily. The salines, by causing serous discharges, may carry off some of the poison from the blood, and relieve a congested liver.

Again, remedies should be administered that will combine with glycocine, and thereby prevent the formation of uric acid. Such is benzoic acid, which seizes upon the glycocine and converts it into hippuric acid, rendering the uric acid already existing in the blood more soluble. It may be given, as originally prescribed by Golding-Bird, in conjunction with phosphate and carbonate of sodium in cinnamon-water. Or, if given alone, compressed into a five-grain pill, of which two may be given at a dose.

In like manner, salicylic acid combines with glycocine, forming salicyluric acid. Dr. Latham prefers this to benzoic acid where there is no albuminuria, since he claims that it not unfrequently increases that condition. He says, too, that the true acid made from the oil of wintergreen must be given, and not the artificial one made from carbolic acid, and as much as can be borne without producing head symptoms; in rheumatic fever, 20 grains every hour until the patient complains of slight buzzing, and then from 45 to 60 grains daily for a fortnight. It too should be compressed into a five-grain pill, or it may be given with phosphate of sodium, which is not only a solvent for it, but for uric acid as well. In our own experience, however, the enormous doses of salicylic acid recommended by Dr. Latham, are not borne by the American stomach.

The alkaline carbonates are also of service in gout, although sometimes they cause oxalates to take the place of uric acid, which state continues as long as the glycocine passes unchanged into the blood, so that measures must be continued to promote the normal metabolism of that substance.

Iodide of potassium is also useful in chronic gout and in gouty asthma. It does not prevent, but rather encourages the formation of glycocine through hydriodic acid, but it exerts a solvent action on the uric acid in the blood: while it is also useful in removing thickening in the tissues about the joints. It may be given in doses of 10 to 15 grains two hours after a meal, and Dr. Latham combines it with small doses of tincture of belladonna.

Chloride of ammonium, very useful in some gouty cases, acts similarly to iodide of potassium through its hydrochloric acid. The bilious headache (megrim), often relieved by common salt, is probably gouty in origin, while many of the mineral waters which have a reputation for the cure of gout, contain, in addition to laxative elements, chlorides, which may add to the virtues of the waters.

The time-honored colchicum is acknowledged by Dr. Latham to be useful, especially in acute gout, but he has no rational explanation to offer of its action. May it not also aid in the elimination of glycocine?

REVIEWS.

Excessive Venery, Masturbation, and Continence. The Etiology, Pathology, and Treatment of the Diseases Resulting from Venereal Excesses, Masturbation, and Continence. By Joseph W. Howe, M.D., etc. 8vo., pp. xv. 299. New York: Bermingham & Company, 1884.

If everything is to be judged by the company it keeps, this title-page puts what has generally been considered a virtue in danger of losing its credit. Equally we might say, and hope as sincerely to find ourselves mistaken, that the author of these three hundred and more pages runs no little risk from the possibility that the old saw alluded to may be applied to him; for the majority of the books written to treat of debased animal passion have been the work of men whose general reputations have not been good at any rate, or who have suffered in the esteem of their fellows by an apparent relish for what is, to many, simply disgusting.

There are some things in the book before us which make it more than usually unpleasant for us to say just what we think. But there have been of late so many publications of this kind put upon the market that it looks as if there might be some particular evil star in the ascendant, and it seems proper to say, plainly and severely, what our offended moral sense dictates, in order that there may be the less likelihood that forbearance shall be mistaken for approval.

The book before us, like all of its class, has not even the merit of presenting its repulsive subject correctly. It perverts the truth, avers what is notoriously false, and spices these faults with narratives which have nothing to commend them to one's attention but their depravity. To obtain these, the author seems to have searched to some purpose the pages of Lallemand and of his own recent predecessor in this unsavory field—Hammond. They and he alike deserve, in our opinion, the most unqualified condemnation, and we sincerely wish all may have no admirers or followers. We should think ill of our profession did we not believe that, as there were two sons of old Noah who, when he was not himself, went backward and covered him with a mantle, to one who looked unblushingly upon his nakedness and went off to talk about it; so the mass of medical men—who must be familiar with much which others may not so much as name—take no pleasure in contemplating nastiness, and turn their faces from it whenever they can.

SOCIETY PROCEEDINGS.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, June 4, 1884.

The President, J. M. Da Costa, M.D., in the Chair.

Dr. Wharton Sinkler read the following paper on

A FORM OF NUMBNESS, CHIEFLY OF THE UPPER EXTREMITIES.

For several years, he said, I have observed in my service at the Infirmary for Nervous Diseases, in this city, and occasionally in my private practice, quite a large number of patients whose prominent symptom was numbness of the hands. The symptoms in these cases are quite regular and constant in their general characters. The patients are usually women, at about the change of life, although cases may occur in men, as will be seen from the instances given below.

The numbness generally begins in one or both hands and gradually extends up the arms. It may be felt in the feet and legs also. It is almost always most marked in the morning, before the patient rises. It is described as a "tingling," and "like pins and needles," or as if the limb "were asleep."

One patient, in whom the numbness was felt in both upper and lower extremities, said she felt like "a sleeping fool." Notwithstanding the numbness, there is but little loss of feeling to touch or pain, and usually the compass points are distinguished as readily in the affected part as in other portions of the body.

The numb member is weak, but there is no paralysis, and the weakness is transient. Often there is pain associated with the numbness. The patients sometimes think the hands are swollen at the time when the numbness is most marked.

I will give, briefly, the history of some typical cases of the affection. It must be borne in mind that I do not consider all cases of numbness as coming under this head. There are many cases of numbness met with which do not depend upon organic lesions of the nervous centres, and yet differ from those which I am now considering.

Case I.—Hannah R., æt. 30 years, single, coat-maker, applied at the Infirmary for Nervous Diseases February 6, 1872. Complains of numbness and pain in both hands and arms. They began three weeks ago in the hands, and the attacks now extend above the elbows. They are induced by sewing, and also come on at night. The numbness and pain begin in the ulnar distribution of the right hand and then extend to the rest of the hand and up the arm. In the left hand they are confined to the forefinger. Sensation is accurate in the affected regions. The ulnar distribution is affected readily by slight pressure over the course of the nerve. There is some tenderness over the median nerve. There is no spinal tenderness. The pulse is feeble, and there is a slight murmur heard at the base of the heart. There is some rheumatic stiffness of both wrists, and decided difficulty in moving the right shoulder. Under the use of galvanism and a very strongly stimulating liniment to the arms, the patient was entirely relieved of the numbness and pain.

Case II.—Letitia M., æt. 48 years, applied at the Infirmary for Nervous Diseases July 5, 1878. Has always been a healthy woman, and has no history of rheumatism. About one year ago she noticed numbness in the right hand: at first in the thumb and first and second fingers, and occasionally in the other fingers. In the beginning it was felt only in rising in the morning, but latterly it has remained all day in the first and second fingers. It is always worse in the morning. About two months ago, she noticed pain at the base of the thumb like a sprain. It comes on with any movements of the arm, and ceases when the limb is at rest. Any movements which require pressure with the thumb bring on pain. There is slight pain on pressure over the median nerve. Sensation to touch and the compass points in the hand and arm are normal.

Case III.—Catharine O'C., æt. 50, washerwoman, applied at the Infirmary for Nervous Diseases June 22, 1880. Catamenia have ceased for some time. Six months ago began to have numbness in the left hip, which extended down the leg. Has had an attack in the right hand. It is worse in the mornings. Dynamometer, right 90, left 70. Ordered ext. ergot. fld. gtt. xx t. d. *July 14.* Returned, saying that she was much better.

Case IV.—Mary M., æt. 60 years, applied at the Infirmary for Nervous Diseases September 15, 1880. Two years ago she was cutting grass with scissors when she injured the forefinger of the left hand. This was followed by numbness of all the fingers, which extended up the arm. The numbness and tingling are now in both arms, and are also felt in the legs. They are most marked at night when the patient is in bed, especially if she lies upon her back. The sensibility of the fingers is good, but there is a slight loss to compass points. The numbness is most marked in the second and third fingers. The hands feel weak. Dynamometer, right 80, left 85. Ordered ext. ergot. fld. f℥ss t. d. *October 13.* Much better. Dynamometer, right 100, left 100. Decreased ergot to gtt. xx t. d. *26th.* Not so well. Increased dose of ergot to gtt. xl t. d., and applied mustard plasters over spine every night. *December 8.* Dynamometer, right 115, left 100. Numbness very much less. The patient continued to improve, and when last seen, in May, 1882, stated that she was greatly relieved of the numbness, although it still occurred at times. If she allowed the arms to lie close by the side when asleep, they became numb. If they were extended, this did not take place.

Case V.—Mrs. B., æt. 50, nurse, applied at the Infirmary for Nervous Diseases November 25, 1881. Menopause eighteen months ago. Is in good health with the exception of numbness of the hands, which began several years ago. There is no assignable cause for the numbness. The numbness is always in the ulnar distribution, and occasionally in the median distribution of hand, and extends up the arm. It is decidedly most marked in the left hand and arm, and is occasionally felt in the left foot. The position of the arms had no influence in bringing on an attack of numbness, but prolonged exertion of the arm will induce it. There is always loss of power of the arm after the numbness has passed off. The dynamometer shows a difference of 20° in favor of the right hand. The patellar reflexes are good. Heart normal.

Case VI.—Mrs. J. æt. 51, appplied at the Infirmary for Nervous Diseases February 15, 1884. Two years ago used her right hand very much. Then began to have numbness in the fingers and hand. Following this there was a burning pain. Her general health has been good, but she sleeps badly. The numbness begins in the fingers, and it is followed by a burning pain which also begins in the fingers, and extends up the arm as far as the elbow. It is most frequent in the early morning. There is slight tenderness on pressure of the ulnar nerve at the elbow. No loss of sensation to touch or to compass points. Dynamometer, right 80, left 95. Ordered ext. ergot. fld. gtt. xx t. d. *February 25.* Returned, saying that the pain and numbness are much relieved. Continued same treatment. *March 10.* For the past few days symptoms have been worse. Is sleeping badly. Ordered to stop ergot and take sodii bromid. grs. xv t. d. *April 17.* Reports that she was not so well while taking bromide. Returned to ergot of her own accord yesterday, and slept well last night. The numbness is also much less.

Case VII.—Mrs. M., æt. 50, widow, consulted me July 13, 1881. Has enjoyed good health and worked hard until recently. Catamenia regular until three years ago. Then she began to have numbness and pricking of the feet, with starting of the legs while in bed. The numbness then extended to the hands and arms. Numbness is now worse in left arm, but a month ago the right arm was most affected. The wrists are painful, and feel as if sprained. If the arms hang down, the numbness is increased. The hands and legs become swollen. She has frequent "flushes of heat" through the whole body, and she then becomes flushed and warm, the sweat starting out freely. Her sleep is interrupted by the starting of the legs. She is a stout, florid woman; has a good appetite, and no dyspepsia or constipation of the bowels. The urine was found to be free from albumen. She is very nervous and often has headaches. The symptoms were markedly relieved by bromide of sodium and ergot.

Case VIII.—Charles E. S., æt. 34, carpenter, applied at the Infirmary for Nervous Diseases August 30, 1878. For a year he has had a sense of general fatigue, and for several months he has had pain in the right shoulder. He has worked very hard, both mentally and physically, for some years. Since last fall he has felt very sleepy all the time. A few days ago noticed twitching of the right hand, and at night was awakened by pain and numbness in the palm of the hand and twitching of the fingers. Since that time the numbness and pain have continued, but are worse when he lies down, so that he is prevented from sleeping. He has had pain in the cervical region of the spine. The patient is obliged to use the right hand a good deal, as, for instance, in planing, and this brings on the attack of pain and numbness. On examination, no twitching is seen, but the patient says there is a feeling as if the fingers were twitching. There is no loss of sensation in the right hand to touch or compass points. The right hand has become weaker. Dynamometer, right 130, left 130. Appetite poor; tongue furred; tendency to diarrhœa. The urine is free from albumen. Ordered potassii iod. gr. x, vin. ergot. fʒj t. d. *September 6.* Is better. Can sleep now, but is awakened about 5 A.M. by pain and numbness in the right arm and shoulder. *11th.* Improving, but the early morning pain and numbness continue. Increased wine of ergot to fʒiij t. d. *18th.* Now sleeps very well. No early morning pain and numbness. This patient remained under treatment at intervals until September, 1881. He had occasional relapses; the attacks being almost invariably brought on by overuse of the hand. At times the numbness extended to the right leg. The pain in the back of the neck was sometimes felt. The last note of the dynamometer was right 155, left 150. The treatment consisted in the free administration of ergot, and, after the subsidence of the symptoms, phosphorus, strychnia, and iron were given for long periods. Blisters were applied over the cervical spine several times.

Case IX.—Mr. H. P. M., æt. 30, married. This patient had an attack of poliomyelitis anterior in 1877. I related his case at length in THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES for October, 1878. He made a complete recovery from the paralysis, and enjoyed excellent health until March, 1883. At this time he came to me complaining of numbness in the hands. The attacks came on in the early morning, and would waken him from sleep. At first he ascribed it to sleeping with his arm extended above his head, but it continues to occur no matter in what position the arms are. The patient is in good general health. No indigestion or rheumatism. The sensation in the hands is normal; the grip is weaker than before the numbness began. Dynamometer, right 156, left 120. He complains of an area of coldness in the right thigh above the knee. There is no anæsthesia or numbness in this region. This case was treated at first with iodide of potassium and massage, and later with strychnia. The symptoms were gradually relieved, and the strength of the hands returned. On April 7, 1883, dynamometer marked right 160, left 130. He still had occasional returns of numbness until October, 1883. At this time, however, the numbness was confined to the tips of the fingers, and did not disturb him until late in the morning.

Mr. M. consulted me again on March 17, 1884; he stated that he had remained free from numbness until lately. The attacks came on as before, *i. e.*, in the early morning, waking him at about 5 A.M. The numbness is worse in the right hand, and this hand is relatively weaker than the left. Dynamometer, right 142, left 136. The hands feel as if they were swollen in the early morning. Ordered ext. ergot. fld. gtt. xxx t. d. *April 4.* Patient reports improvement. Numbness comes on later in the morning. Now ordered strychniæ sulph. gr. $\frac{1}{50}$ t. d. Ergot stopped. *26th.* Better; sleeps until 6 A.M., but is then wakened by the numbness. Stopped strychnia. ℞. Syr. d'ergotinine (Tanret's) f℥j t. d. *May 6.* Patient thinks last prescription has had more decided influence in relieving the numbness than anything he has taken; the numbness comes on later every day. Dynamometer, right 158, left 142. *18th.* Patient now has no numbness.

It will be seen that of the female patients whose cases I have given, their ages were between forty-eight and sixty years, with the exception of one who was thirty years. In this case the disorder was induced by the nature of her work, which was constant and hard sewing. The ages ranged as follows:

1 aged 30 years.
2 " 48 "
3 " 50 "
1 aged 51 years.
1 " 60 "

In two patients, Cases I. and VII., there were evidences of rheumatism, but in none of the others were there any symptoms of rheumatic trouble. In Cases I., IV., and VIII., the origin of the trouble seemed to be in overuse of the limb first affected. Indeed, in Case VIII. the affection at first seemed like a low form of an ascending neuritis, but afterwards the symptoms were more general.

Most of the patients were in good general health, but some were anæmic or overworked.

The numbness in most instances was in both arms, occasionally it was found in all of the limbs, and in three cases in one arm alone. The ulnar and median distributions were most frequently affected.

Pain was associated with the numbness in several patients. It was not an acute pain like neuralgia, but, as one patient expressed it, like the pain which comes when a limb is getting over being asleep. Tenderness over the ulnar or median nerve was observed several times. There was usually some loss of power in the parts involved. The dynamometer showed several degrees difference between the hands in the cases when only one limb was affected. The duration of the affection was from a few months to several years. One of the patients had suffered from the disorder for two years before coming under observation, and at the end of a year and a half still had occasional attacks.

Dr. Weir Mitchell, in a lecture on "The Symptom Numbness,"[1] and later, in a chapter in his work on *Diseases of the Nervous System*, has described several varieties of numbness. Most of his cases were in anæmic or hysterical persons, and the symptom yielded under a course of treatment which tended to improve the nutrition and *morale* of the patients. He refers to cases in which the numbness came on during sleep, and remarks that this is a form "which belongs to the night." He finds that the numbness in the cases he has seen is frequently hemiplegic in character, and alludes to the fact that "some persons who have gotten pretty well of a hemiplegia of organic cause are liable to waken out of sleep with numbness and lessened power of the side once palsied.

Dr. James J. Putnam, in a paper read before the American Neurological Association,[2] treats at length of a series of cases of "paræsthesia mainly of the hands." He bases his paper upon the notes of thirty-one cases, and the description he gives resembles those which I have related. He finds that most of his patients were women, and almost all were in middle life, but he does not remark upon the fact that they were about the period of the menopause.

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[1] Med. and Surg. Reporter, Dec. 2, 1876.

[2] Archives of Medicine, vol. iv., No. 2, Oct. 1880.

Dr. Putnam suggests that the possible cause of the affection is, "alterations of the blood-supply of the smaller branches or terminal filaments of the sensitive nerves supplying the affected districts."

The treatment of this writer consisted in the use of galvanism, phosphorus, strychnia, bromide of potassium, and several other drugs. He did not think that he had had sufficient opportunity to test the value of the different remedies, but seems to have found phosphorus of more value than any other one means used.[1]

Dr. J. A. Ormerod has described twelve cases[2] which very closely correspond to those which have come under my observation. All of his patients were women, and the attacks of numbness began to come on about the cessation of the menses. Three of his cases were rheumatic, and in some the trouble proceeded from the nature of their work. Bromide of potassium afforded marked relief in many of the cases. Dr. Ormerod compares this affection to the deadness of the fingers which some persons experience after exposure to cold, and therefore ascribes it to vascular spasm.

It has seemed to me that in these cases there is probably a condition of hyperæmia either of the nerve-trunk or of a portion of the cord. In some cases I think the hyperæmia is confined to the nerve-trunks or to some of the terminal filaments of the sensory nerves, but in others it seems not unlikely that the cervical enlargement of the cord becomes hyperæmic or congested, from the fact that the numbness is often bilateral. The circumstance that the affection comes on at night seems to me to strengthen the view of the pathological condition being one of hyperæmia, for the supine position favors an increase of blood in the cord and the nerves of the extremities. I have seen patients in whom the numbness would come on if they lay down and fell asleep even for a short time in the day.

Women at the change of life are more prone to hyperæmias and congestions than at other periods of life, and they are the most frequent subjects of this form of numbness.

In several of my cases ergot gave marked relief, and Dr. Ormerod found bromide of potassium the most successful therapeutic means he used. Both of these remedies are believed to diminish the blood-supply in the nervous centres. It is true that Dr. Putnam found phosphorus the most useful drug in his cases, but in one of those which he reports the remedy failed, and another was relieved by bromide of potassium.

From my experience in these cases, I should say that the prognosis in middle-aged women was not good for permanent relief. The numbness can generally be greatly benefited or stopped for the time, but it is liable to return. In those cases in which the trouble has been induced by overwork of the part, one can almost surely promise permanent cure if the cause can be removed.

With regard to treatment, as indicated above, ergot has proved the most useful medicinal means I have employed. Massage and spinal galvanism are always useful adjuvants, and so are all means which improve the general health. Bromide of potassium has helped some of my cases, and one patient was much benefited by sinapisms over the spine. It was found advantageous in most of the patients to give strychnia for a time after the disappearance of the numbness.

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[1] In a note recently received from Dr. Putnam, he says that he has lately found lead in the urine of one of the patients referred to in his paper, and thinks that it should be looked for in all cases of numbness.

[2] Saint Bartholomew's Hospital Reports, 1883.

CORRESPONDENCE.

ETHERIZATION BY THE RECTUM.

To the Editor of The Medical News.

Sir: From the first publication in regard to the production of anæsthesia by introducing the vapor of ether into the rectum, I was satisfied that it was not a new process, but dated far back of Yvrsen, of Copenhagen, or Mollière, of Lyons. It was associated in my mind with the name of Pirogoff, but I searched my notes and references in vain. Having now stumbled upon the evidence of an earlier use of this method than the present time, I send it for the benefit of your readers, and with it all the references to the original papers, that those interested, and having access to large libraries, may study the subject.

The method is mentioned in Bernard's *Leçons sur les Anesthètiques et sur l'Asphyxie*, Paris, 1875, p. 61. After stating and illustrating the proposition that all anæsthetics must gain access to the blood to produce their effect, the author says:

"In the same manner it is possible to produce anæsthesia by introducing the vapor of ether freely into the rectum, but it is a practice little followed, very uncertain, and which is recalled only as an historical curiosity. The possibility of anæsthesia by the rectum having been indicated by Roux (*Acad. des Sciences*, 1er Fevrier, 1847), it has been since established as to animals, by Vincente y Hedo (*Ibid.*, 17 mai, 1867), and by Marc Dupuy (*Ibid.*, 5 avril, 1867). It is M. Pigoroff, however, of St. Petersburg, who has tested this proceeding on patients (*Recherches pratiques et physiologiques sur l'Etherization*, St. Petersburg, 1847). According to Pirogoff, anæsthesia comes on rapidly, without preceding excitement; scarcely has the vapor of ether penetrated the rectum, or at the end of one or two minutes, when it can be detected in the breath. A short time after the etherization, a large quantity of gas mixed with the vapor of ether escapes from the rectum. . . . Meantime, this method has not been adopted; the attempt was only inspired by the exaggerated fears of inhalation of anæsthetic vapors which prevailed at that time."

If some one of your readers would translate and publish Pirogoff's paper to which reference is made above, he would confer a favor upon the profession, or at least furnish a very interesting article for perusal at this time.

Yours, J. C. R.

Dayton, Ohio.

THE DANGER OF GLASS VAGINAL DILATORS.

To the Editor of The Medical News.

Sir: May I add a recent experience of mine to that of Dr. R. Tauszky as a protest against the use of glass in the vagina? I was summoned hastily about midnight to a patient of a prominent gynecologist, who happened to be out of the city, and found that the lady had been using glass dilators, under his supervision, to maintain the results of an operation for vaginismus with rigid hymen. Whilst she was lying quietly in bed the glass broke in her vagina with an audible report, although it had been in her some minutes and had not been dropped or exposed to any violence. It had been used *secundum artem*. Much difficulty was encountered in extracting the end, which had separated as a disk with upper edges rounded and the lower sharp, but by the use of the handle of a large spoon in the manner of a Sims's speculum and putting a finger in the rectum, we succeeded without causing serious laceration. I have once or twice seen a tumbler quietly standing on a table unaccountably fly to pieces without apparent external agency, and suppose the breaking of the dilator was of parallel origin, although I know of no way of explaining the phenomenon.

Yours, etc. . . . .

NEWS ITEMS.

CHICAGO.

(*From our Special Correspondent.*)

THE LOCAL CONFERENCE OF HEALTH COMMISSIONER DE WOLF AND CHICAGO PHYSICIANS ON THE CHOLERA SITUATION.—Commissioner De Wolf opened the meeting, in the City Hall, Friday, July 25, by thanking the physicians for responding to his invitation. He did not design nor attempt to shift or transfer any responsibility which the duty of his office imposed upon him to other shoulders. But he well understood that, when a community was disturbed—as all communities were at this moment—it was very important that mistakes should not be made. He also understood that any act which they approved, or any measure which they suggested, would be precisely the right thing at the right time, and would meet with the approval of the community.

Is the city of Chicago, to-day, in a satisfactory condition from a sanitary standpoint? There was only one answer. It was not, and never would be in his day or theirs. There were large tracts of territory in this city which must fill any intelligent mind with alarm in the face of an epidemic. For example, the Fifth Ward, with 57,000 people, and the Fourteenth Ward with 67,000 people, were in a shocking condition. In the Fourteenth Ward, 30,000 people lived on unsewered land, from three to five feet below the surface of the street, the privy vaults and house sites were saturated with water eight months in the year, the ground receiving the sewage from the dwellings and the seepage from the vaults; cottages of four rooms, having a family in each room, with many children—packed like herrings in a box. Such conditions were far from sanitary conditions.

When, on June 23, 1883, cholera appeared at Damietta, he felt reasonably assured that this atrocious disease had commenced its journey over the civilized world, and from that day he had in every way done what he could to prepare for its advent. Last year, thirteen miles of sewers were put down; this year, nine miles, so far, and seven more were to be laid. Last year the tenement force was increased, and he commenced a thorough and complete examination of the tenement houses of the city. Of these, 4644, containing 125,000 people, had been examined and their sanitary condition improved; 3973 privy-vaults had been cleaned; the department had in operation 144 two-horse teams cleaning the alleys, and the Department of Public Works gave employment to 151 men and 25 teams, with two men to each team in cleaning gutters. This work was independent of the ordinary street-cleaning, which was done by contract. This work was pursued under difficulties; in some sections of the Fifth Ward, the gutters were below the surface of the sewers. There were miles of sewers so placed that neither house-sinks nor gutters could be connected with them until extensive areas of country were raised to the sewer-level. It was necessary to place these sewers at the level that they might be connected with the general sewerage system.

Individual opinion was asked upon the following subjects:

I. Quarantine. While a firm believer in it, he had absolutely no confidence in the ordinary operation of quarantine. For example, Toulon placed what is called a military cordon sanitaire about the city, and yet through that line of soldiers and police, forty thousand of the lazzaroni, each with a bundle of rags, dispersed themselves over Europe. In 1873 quarantine was observed in New York and Boston—a quarantine of the individual—but that individual had with him a trunk or a box infected with cholera germs from the cholera districts, and cholera appeared in De Peyster Street, New Orleans, and at three or four points in the Northwest from the exposure of this clothing. The quarantine which observed the individual and not the condition of his clothing, was a delusion and a fraud. If cholera appeared on our coast, he should regard it his duty to place a medical inspector—an accomplished man—on every immigrant train coming into the city, to find out where the immigrant proposed to stop. If in Chicago, the baggage should be taken possession of and fumigated. If they were merely passing through the city, no attention should be paid to it. It was possible that at the conference to be held at Washington, August 7th, some action might be taken which would relieve the city authorities from these observations. The placing of these young medical men meant a large expenditure of money. While there was no limit to the amount he could receive for the management of an epidemic, if it appeared, the money must be spent intelligently as well as vigorously, and if they approved this disposition to which he had referred, it would be so spent.

II. Hospital accommodation. There was the smallpox hospital, four miles from the city, which was in admirable order, and under the care of an order of the Catholic sisterhood. Should that hospital be utilized for cholera purposes if the disease appeared? Would the private hospitals be ready and willing to open their doors, and set aside space where we might put cholera patients unable to take care of themselves? If not, would they advise the erection of temporary hospitals in different parts of the city?

III. Division of the city into districts, and the appointment of medical officers. He had divided the city in his mind into forty districts, into each of which, when cholera appeared on the coast, he proposed to put a young, intelligent medical man. He had most of them in mind, and would complete the list before the end of the week. He proposed to call them together and confer with them touching their duty as health officers in relation to an epidemic of this kind. He would be in constant communication with them by telephone. At the City Hall there would be on duty at all times an ample ambulance service. When there was occasion for it, this could be put in operation at twelve hours' notice.

IV. Resources for disinfection. The resources for disinfection were ample and complete. He could command five thousand gallons of chloride of zinc every day, if necessary. This chloride of zinc was a waste product in connection with certain manufacturing interests in Chicago, and would cost the city nothing.

As to the condition of the city to-day, he claimed that the inspection of tenement houses, the putting in of sewers, and making connection, and cleaning of privies was a legitimate sanitary work. It did not appear on the surface, but it told when the mortality list of the city was reviewed. The death-rate in Chicago had been steadily diminished from 26 in 1000 to less than that of any city of its size on the globe. He claimed that Chicago was in relatively good shape to meet the shock of any epidemic. In reply to questions, Dr. De Wolf said that the smallpox hospital could accommodate two hundred patients, but that the distance was great and the roads were bad.

DR. N. S. DAVIS approved the suggestions relative to the quarantine, but thought they would be ineffective. He suggested that when a train was inspected, the results should be telegraphed ahead, in the direction it was going, so that the people of other cities might also derive a benefit from the inspection. As regards hospital accommodations, he desired to encourage the treatment of patients wherever they happened to be seized, as removal was likely to hasten death. He thought there was no ground for expectation of cholera this year. It was not America's turn. It did not come here, as a rule, until the third year after it appeared in the distant East.

DR. W. H. BYFORD thought all quarantine was an experiment, and of doubtful utility; he approved the plans of the Health Commissioner. As to hospitals, he favored the erection of temporary ones of boards. Tents would be better.

DR. H. A. JOHNSON thought that the measures of quarantine to be established here should depend upon those taken elsewhere. He thought it bad policy to wait until it had got to Hyde Park in trains coming to the city. In a city, in the midst of a continent, besieged by an enemy whose approach must be guarded from every quarter, it will be found difficult to do anything. He approved the idea of temporary barracks in place of regular hospitals.

DR. EPHRAIM INGALS, took a sanguine view of the situation, and thought Chicago had no more reason to fear a cholera epidemic, than she had to have apprehension of a second fire.

Drs. R. N. Isham, R. Ludlam, J. B. Ross, Ernst Schmidt, J. H. Etheridge, J. E. Gilman, and Wickersham, expressed approval of the Health Commissioner's plans.

The following resolution was then offered, and adopted:

Resolved, That we have been informed of the plans and means which the Commissioner of Health proposes to adopt in case an outbreak of cholera should occur in our city, and we approve of the same.

The very pertinent question—"Why is the water of the North Branch pumped into the lake?"—was referred by the Commissioner of Health to the Commissioner of Public Works, who was not present.

CHOLERA NOTES.—The cholera mortality at Marseilles and Toulon is diminishing, but the disease has spread to Arles, Mouillon, La Valette, and Aix, and isolated cases continue to be reported in various parts of France, some widely distant from the infected district. At Vintimiglia, in Italy, ten deaths have been reported, at Panealieri seventeen cases, and at Spizzia two deaths.

At Marseilles, the daily mortality has diminished from 43 on the 23d ult. to 23 on the 29th.

The classification of the deaths from cholera, according to the nationality of the victims, gives the following results: French, 798; Italian, 322; Spanish, 13; Greek, 9; English, 1; Austrian, 1; German, 1, and American, 1.

The disease is reported not to have the same virulence that has characterized previous outbreaks, and that it appears to have attacked sickly individuals rather than whole sections of the population. It is estimated that the total number of deaths at Marseilles since the outbreak appeared reaches 1000, and that 500 cases have been cured. At Toulon, the total mortality to July 26 is 593.

The French Academy of Medicine proposes to hold an international congress to discuss the prevention and cure of cholera. Dr. Koch has asked that the congress meet in Berlin.

BRITISH PRECAUTIONS.—The Duke of Cambridge, the Commander-in-Chief of the British Army, has issued additional orders for the taking of precautionary measures against cholera in the army. He has directed the barracks throughout England to be placed in the best sanitary condition possible. He has also given orders for the creation of a system of medical relief and for the removal of the troops into camps in case the cholera appears among the soldiers.

The steamship St. Dunstan, which arrived from Marseilles on July 18th, having two cases of cholera on board, left quarantine at Liverpool on July 23d and was docked. She had been previously thoroughly fumigated to destroy all possibility of infection.

CHOLERA PRECAUTIONS IN FRANCE.—The Comité Consultif d'Hygiène Publique of France, have promulgated the following rules for protection against cholera:

Excessive fatigue, either by travelling or for pleasure, as well as by prolonged wakefulness and cold baths of long duration, should be avoided. Chilling of the body, especially during sleep, drinking large quantities of cold water, are very dangerous in time of cholera. The use of bad water is one of the most frequent causes of cholera. When not perfectly sure of the good quality of the water used for drinking and cooking purposes, it is better to boil a supply for each day, as boiling makes it perfectly safe. A small quantity of tea, hops, or bitter or aromatic plants, or wine, may be added to the water to be boiled. The following drink is recommended as excellent for quenching the thirst without drinking a large quantity of fluid: Rum, 40 parts; alcoholic tincture of gentian, 4 parts; fresh water, 1000 parts, by weight. It is better to filter this through charcoal. Table mineral waters are excellent.

Bakers should be forbidden to make bread with water from wells placed inside of a house, when latrines and manure heaps are sufficiently near to soil the water, and they should be absolutely forbidden to use such wells in time of cholera.

There is no reason why fruits should not be used in moderation, provided they be of good quality. They should always be peeled, and it is better to eat them cooked. This applies also to vegetables, which should be cooked. Every indiscretion of diet should be avoided. It is very dangerous to drink much alcoholic liquor; complete abstinence is better than a slight excess. Ices and iced drinks taken rapidly during digestion, or while the body is perspiring, are liable to cause choleraic attacks, and should be avoided.

Precautions in case of an attack. The least digestive troubles may invite an attack of cholera, consequently they should never be neglected, and a physician should be sent for immediately, as an attack may be prevented or arrested by timely active treatment.

Nurses for cholera patients. No person in attendance upon a cholera patient should go without rest for more than twelve hours. They should have a double quantity of wine, and of coffee at night. Every day, after the morning visit, the physician should see to the state of health of these persons, and prescribe, when necessary, rest and suspension of duty.

Transmission of cholera. Cholera is most frequently propagated by vomited matter and alvine evacuations; and these discharges are very little less dangerous in mild cases than in the most severe. They should be disinfected, and removed from the sick-room as soon as possible.

Disinfection. Every latrine in a house may be poisoned, when emptying into one discharges which have not been disinfected. The disinfectants to be recommended are first, sulphate of copper, next, chloride of lime, and chloride of zinc. Carbolic acid and copperas are insufficient. To each alvine evacuation or each quart of liquid matter, a large glassful of the following solution should be added: Sulphate of copper, of commerce, ʒxiij; water, Qj; or a small coffeecupful of chloride of lime in powder (about ℥xx); or a solution of chloride of zinc (1 to 100). It is best to place these in the bottom of the vessel intended to secure the dejections.

Linen. Soiled body- or bed-linen should be plunged, before being taken out of the room, into a tub containing either a gallon of the sulphate of copper solution, or two cupfuls of dry chloride of lime. They should be put into the tub, and wrung out—about half an hour in the copper solution is sufficient. This solution should be made fresh every day. When removed from the solution the linen should be immediately boiled, before using soap. Disinfection may also be performed with sulphur in the following manner: The clothes are hung up in an empty closet, all the openings of which are thoroughly closed, and a little water is sprinkled on the floor to make the air moist; ʒvij of flowers of sulphur to the cubic yard are then burned. The sulphur should be placed in a vessel placed at the bottom of a small basin half full of moist sand. The sulphur is lighted and the person leaves the room immediately, to return and open the closet in about twenty-four hours. When the clothes are very much soiled, they should be burned.

The floors. The soiled spots on the floors and drapery about the room should be immediately washed with a rag dipped in the copper solution, or in milk of chloride of lime, made by mixing a spoonful of the dry lime with a quart of water. The rag should then be burned.

The beds. So far as possible, the beds occupied by cholera patients should be protected by paper to prevent soiling of the mattresses. The paper should be burned afterwards. Mattresses touched or soiled should be moistened by means of a rag or a piece of wadding or tow, with the copper solution (1 part in 5 of water) or with the chloride of lime solution (a spoonful of dry lime to a quart of water). They should afterwards be removed, in special vehicles, and disinfected in an oven, either by steam or heat, 220° F. If this cannot be done, they should be placed on stands in a close room and disinfected by burning sulphur, not less than ʒvij of flowers of sulphur to the cubic yard of space in the room.

Water-closets. Twice a day, in houses in which there is cholera, two quarts of the copper solution should be emptied into the basins, or two cupfuls of lime in two quarts of water. A cupful of the copper solution or of solution of chloride of zinc should be emptied every evening into the drain-pipes about the house. Wherever it is possible, siphons or U-tubes should be attached, so as to prevent the entrance of gas into the house.

Provisions and everything to be eaten should be kept in tight cases, and every day half a glass of the copper solution should be poured over their surface, or one or two spoonfuls of chloride of lime, in powder. The kitchen refuse should be placed every day in a close metallic case, and sprinkled with chloride of lime before night. Every morning this case should be emptied by the city carts, a quantity of chloride of lime being placed at the bottom of the case when it is emptied.

The following are the general rules for public hygiene:

Public assemblages. In time of cholera there should be no assemblages of people, as in this manner the disease may be easily propagated.

Accumulations of filth. The accumulation of dirt and filth of any kind in the neighborhood of houses, should be strictly prohibited. They should only be disturbed and removed after having been disinfected with one of the materials mentioned above. Nor should any stagnation in sewers or drains be allowed; they should be disinfected and flushed. Scavenging should only be done with hermetically sealed receptacles, working by steam, and burning the gas under heaters. After each operation the place should be disinfected. All drains should be supervised and disinfected by the public authorities.

Compulsory notification. The immediate notification to the authorities of every case of cholera, should be obligatory.

Transportation of cholera patients. When a case occurs in a hotel or lodging-house, the authorities should be at once notified. The patient should not remain in the house, even for twenty-four hours, but should be carried to a specially provided place.

Disinfection of rooms. A room which has contained a cholera patient, even for the shortest time, should be disinfected with sulphur.

Disinfection of infected apartments. The room occupied temporarily by a cholera patient should not be occupied again until it has been completely disinfected by burning ʒvij of sulphur to the cubic yard.

Special ambulances. When several persons occupy the same room and one becomes infected with cholera, he should be immediately taken away in a hospital or special ambulance, to some place where the chances of recovery are greater and of infecting the others are removed.

Inspection of houses. In every house in which a case of cholera occurs, an immediate inspection should be made by a municipal officer, first to ascertain the true nature of the attack, and then to take active measures for disinfection. If it has not been thoroughly disinfected, it should be disinfected anew, the lodgers being compelled to vacate for twenty-four hours.

Laundries. Public laundries should be under the strictest supervision, and particular care be taken that the clothes of cholera patients are not washed together. As stated before, these should be thoroughly disinfected before being washed.

Distribution of disinfecting materials. Each police station should be a depot for the storing of disinfecting materials, put up in bottles or packages, of flowers of sulphur, dry chloride of lime, pulverized sulphate of copper, and solution of chloride of zinc, 45 per cent., with labels clearly stating how they should be used. These should be gratuitously distributed to persons having an order from a physician or a municipal officer.

Carriages. A sufficient number of carriages should be set apart for the sole purpose of conveying cholera patients. They should be disinfected every day. Special ambulances and urgency rooms for the temporary use of cholera patients should be furnished by the authorities.—*Gazette Méd. de Paris*, July 12, 1884.

Precautions Elsewhere on the Continent.—It is stated that the running of through coaches on the railways between Germany and France will be stopped on account of the cholera.

The Swiss Federal Council has decided not to stop the annual military training on account of the cholera.

A cablegram from Athens states that the steamer "Tiger," belonging to the Messageries Maritimes, from Marseilles, arrived off the Piræus, on July 27, with two cases of cholera on board. Admittance to the port was refused, and the steamer departed for Smyrna.

The *Wiener medizinische Presse*, of July 13, in an editorial article, questions if the meeting of the International Medical Congress should not be put off on account of the danger of propagating the cholera.

Precautions in the United States.—At the annual meeting of the West Virginia State Board of Health held on the 22d ult., the Secretary, Dr. James E. Reeves, was instructed to adopt such means as might seem to him best to protect the State from cholera.

Health Commissioner Stevenson, of St. Louis, will ask the Municipal Assembly, which meets on August 1st, for an appropriation to close all the wells in the city as a sanitary measure. Other measures will also be taken to place the city in a thoroughly clean condition to meet any possible appearance of cholera this season. A number of special inspectors are now giving private premises a thorough examination, and the entire police force has been put under strict orders to enforce all laws regarding nuisances.

An application was recently received at the Treasury Department for the admission at the port of New York of a consignment of rags, which had been shipped at Marseilles in May last. The vessel showed a clean bill of health, and had passed quarantine at New York. The application was denied on the ground that the order prohibiting the entry of rags from infected ports was imperative, and allowed no discretion.

Pasteur's Criticism of Koch's Views on Cholera.—*Le Figaro* has interviewed Pasteur regarding Koch's views of the cholera in France, and he replied, in writting, as follows: All the prophylactic measures against cholera which the press has reported as having been indicated by Dr. Koch at Marseilles and Toulon, are precisely those which have been recommended since the time when it was shown that cholera was principally transmitted by the dejecta of the cholera patients.

There is, however, one very new point in the instructions of Dr. Koch. He condemns irrigation and drainage by water in the gutters, and states that all causes of humidity are favorable to the propagation of the epidemic. We cannot view this proposition in the same light. If there are cholera microbes in the streets, or in a room, or on dry soiled linen, and these microbes have become so dry as to be non-viable, certainly sprinkling them will not render them viable. If, on the contrary, their state of desiccation is such that humidity favors their return to life, they should be moistened, as they will thus be rendered less susceptible of being carried about by the wind. In fact, if they are left in this state of relative dryness, and are not dead, the least movement will convey them to our mucous membranes, where they will find the moisture necessary for their life.

This logic appears to him incontestable, and proves how ill-founded is the opinion of Dr. Koch. Who will dare to enter, he asks, to sleep and eat in a room in which a cholera patient has died, and in which the linen and other clothing has been left dry for several days? "The objects soiled by the dejecta should be cleaned with dry linen, which should then be burned," says the report. This appears impracticable to me. A vase or marble is only with great difficulty cleaned with a dry rag; but it is not possible to clean cloth in this way. "Burn it," adds the report. My advice is different. It is well known that in burning linen small particles become detached and float about the room before being thoroughly burned. I prefer to plunge it into boiling water—the result is the same. Finally, Dr. Koch advises that the apartments in which cholera patients have died be left uninhabited for six days. On what does he base his opinion that the danger does not exist on the seventh day? This is entering into the domain of superstition. —*Gaz. Méd. de Paris.*

Yellow Fever.—The Consul at Guaymas, Mexico, reports to the Secretary of State that "the report of yellow fever at this port during the month has been greatly exaggerated. There is no doubt but what there is a malignant type of malarial bilious fever; during the month eleven deaths are reported from this disease, which is called by some yellow fever. No foreigners have, as yet, died from it in the month. The port authorities still give clean bills of health to all vessels departing."

At Havana the yellow fever is slightly on the increase, with a reported mortality of twenty-three for the week ending July 26.

THE S. D. GROSS PROFESSORSHIP OF PATHOLOGICAL ANATOMY.—Dr. Richard J. Dunglison, Treasurer, Lock Box 1274, Philadelphia, acknowledges the following additional contributions to this fund:

W. L. Conyngham, Esq., Wilkes Barre, .	$200
Dr. N. Bozeman, New York, . . .	100
Dr. Wm. Pepper, Philadelphia, . .	100
Henry C. Lea, Esq., Philadelphia, . .	100
Dr. Frank Woodbury, Philadelphia, .	50
Dr. C. Ernest Kamerly, Philadelphia, .	25
Dr. James Graham, Philadelphia, . .	25
Dr. Hunter McGuire, Richmond, Va., .	25
Dr. D. W. Cheever, Boston, . . .	20
Persifor Frazer, Esq., Philadelphia, .	20
Dr. B. A. Watson, Jersey City, N. J., .	20
Dr. John Graham, Philadelphia, . .	20
Dr. Wm. Ashbridge, Philadelphia, .	10
Dr. Horatio R. Bigelow, Washington, D.C.,	5

JEFFERSON MEDICAL COLLEGE.—DR. ROBERT E. ROGERS, Professor of Medical Chemistry and Toxicology in this institution, has just tendered his resignation of the Chair, to which he was elected in 1877.

AMERICAN PUBLIC HEALTH ASSOCIATION.—The twelfth annual session of this Association will be held at St. Louis on October 14–17, 1884, under the Presidency of Albert L. Gihon, M.D., U. S. A.

THE BRITISH MEDICAL ASSOCIATION.—The annual meeting of this Association was held at Belfast, beginning on Tuesday last, under the Presidency of Dr. James Cuming. Additional interest it was anticipated would be imparted to the proceedings by the presence of a number of distinguished foreigners, who had announced their intention to be present. From America, were expected Drs. Austin Flint, L. A. Sayre, and A. Jacobi, of New York; E. M. Moore, of Rochester, and S. J. Jones, of Chicago. From the Continent, Prof. Benedikt, of Vienna; Prof. Zehender, of Rostock; Dr. Cordes, of Geneva; Dr. Pozzi, of Paris; Prof. Gayet, of Lyons; Dr. Dujardin-Beaumetz, of Paris; Dr. Drummond, of Rome; and Dr. Grant Bey, of Cairo.

OBITUARY RECORD.—PROFESSOR E. JAEGER VON JAXTHAL. The Vienna journals announce the death of Prof. Jaeger, the celebrated oculist, at the age of sixty-six years. He took his degree of Doctor in Medicine in 1844. Until 1849 he served as surgeon in the Austrian Army, when he opened a private dispensary for the treatment of diseases of the eye. In 1853 he was appointed Privat-Docent for Ophthalmology in the University of Vienna, and was raised to the Adjunct Professorial Chair in 1857. In the same year he was appointed Ophthalmologist to the General Hospital, of which he remained chief ophthalmologist until his death. In 1883 he was appointed Professor in the University. Jaeger's scientific writings are known and read in every language, and his test-types are used by almost every ophthalmologist in the world. He was an original thinker, and a skilful operator.

——M. BOUISSON, the eminent surgeon of Montpellier, has recently died. He was at one time a military surgeon, and contributed largely to the scientific movement of 1840–1860. He was born in 1813, and finished his medical studies in 1836; was appointed Professor of Physiology in Strasburg in 1837, to that of External Pathology in Montpellier in 1840, and to that of Clinical Surgery in 1851. In 1859 he took the Chair of Operative Medicine, which he held until his death.

——M. LETIÉVANT, Surgeon-Major of l'Hôtel-Dieu, in Lyons, and Adjunct Professor to the Faculté de Médecine, whose death is just announced, was a surgeon of great merit, and was well known by his writings, his principal work being on *Nerve Sections*. He was the first surgeon in Lyons to use the antiseptic method.

NOTES AND QUERIES.

BIDDING FOR STUDENTS.

To the Editor of THE MEDICAL NEWS.

SIR: In your issue of July 19, under the head of "Bidding for Students," you comment editorially on the "practice of a Baltimore medical college," to which your attention has been several times called. The Faculty of Physic of the University of Maryland has been "a Baltimore medical college" for more than three-quarters of a century, but up to the present time has not found it necessary to resort to the practices you so very properly condemn in order to fill its lecture-halls; nor is it likely that your timely and appropriate remarks should seem aimed at the University by any one familiar with its history or acquainted with its Faculty. Nevertheless, for the credit of the University among those at a distance, and in the interest of simple justice, we beg leave to say that we are not guilty of the practices animadverted upon by you in your editorial of July 19, and that we do not aim to increase the incumbrances of a "country overrun with half-educated doctors who are a reproach to the profession, and a danger to the community." I have the honor to be,

Sincerely yours,
J. EDWIN MICHAEL, M.D.,
Chairman of the Pub. Com.,
University of Maryland Medical School.

BALTIMORE, July 19, 1884.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 22 TO JULY 28, 1884.

WRIGHT, J. P., *Major and Surgeon.*—Granted leave of absence for one month, on surgeon's certificate of disability.—*Par. 3, S. O. 89, Headquarters Department of Texas*, July 17, 1884.

MCELDERRY, HENRY, *Captain and Assistant Surgeon.*—So much of Par. 12, S. O. 165, A. G. O., July 16, 1884, as assigned him to duty in Department of the East, is revoked, and he is ordered to report in person to the Surgeon-General of the Army for duty in connection with World's Industrial and Cotton Centennial Exposition, at New Orleans, La.—*Par. 12, S. O. 173, A. G. O.*, July 25, 1884.

FINLEY, J. A., *Captain and Assistant Surgeon.*—Granted leave of absence for one month, with permission to apply for one month extension; to take effect about September 1, 1884.—*Par. 2, S. O. 91, Headquarters Department of Texas* July 22, 1884.

REED, WALTER, *Captain and Assistant Surgeon.*—Relieved from duty at Fort Sidney, Nebraska, and ordered for duty as Post Surgeon at Fort Robinson, Nebraska, relieving Assistant Surgeon Henry McElderey, U. S. A.—*Par. 2, S. O. 62, Headquarters Department of the Platte*, July 22, 1884.

BENHAM, R. B., *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Fort Brown, Texas.—*Par. 1, S. O. 90, Headquarters Department of Texas*, July 19, 1884.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

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ORIGINAL LECTURES.

VERSIONS AND FLEXIONS OF THE UNIMPREGNATED UTERUS.

A Course of Lectures delivered before the Boerhaavian Society.

BY ELY VAN DE WARKER, M.D.,

OF SYRACUSE, N. Y.; FELLOW OF THE AMERICAN GYNECOLOGICAL SOCIETY.

LECTURE I.

ETIOLOGY.

CONFUSION, which grows more perplexing as gynecology advances, so surrounds the subject of versions and flexions of the uterus, as conditions demanding correction, that it is nearly impossible to reconcile the assertion on one hand, with the general denial on the other that defines the two schools of uterine pathology. I believe that in these lectures we will better serve the cause of sound teaching by ignoring these differences, and give to the facts—both of pathology and etiology—of the subject a careful analysis, and thus lay out a secure groundwork for the more difficult study of symptoms which will follow. In this way we shall know the relations of these lesions of form and position to what I may call the paradox of symptoms.

A glance at the various etiological groups will show that the causes range through nearly the whole field of morbid gynecological conditions. I divide these causes into five great groups:

A. Causes existing in the uterus.
B. Causes existing in pelvic inflammatory conditions.
C. Causes due to non-inflammatory pelvic conditions.
D. The condition of near parts as a cause.
E. Systemic causes.

The first group (A) is of the first importance. To simplify its study, I divide it as follows:

a. Developmental conditions of the uterus.
b. Causes due to defective uterine involution.
c. Causes existing in inflammatory and other conditions of the uterus due to parturition.
d. Non-parturient inflammatory and other conditions existing as causes.
e. Causes due to uterine new growths.

a. There can be no doubt that many errors in the period of uterine development tend to the production of versions and flexions of the organ. There are no reasons why these errors should not be assigned to the very earliest stages of uterine growth. But there has developed a thoughtless habit among gynecologists to apply the term "congenital" to those flexions of the uterus which evidently have their origin in early life. When we reflect that in infantile life the uterus consists of a neck with an undeveloped body and fundus attached; that there is no proper separation of the cavities of the neck and rudimentary body, but that it is one cavity with the *arbor vitæ* extending throughout; and that the organ continues to maintain this relative proportion between the body and neck until the sixth or eighth year of life, we have good reasons for rejecting the theory of connate flexions. Dr. Hagermann, in an elaborately illustrated monograph, clearly proves the difficulty of such an origin for flexions of the uterus.

In practice, we observe a large number of flexions of the organ in young women, in which the cervix, and usually the whole uterus, are small and exceedingly mobile. To this group, C. Mayer assigns as a cause the atrophy of the uterus in childhood. This is undoubtedly the cause if we substitute for the term atrophy, the term arrested development, for we cannot conceive of atrophy in an organ not yet developed. E. Martin also takes this ground. Virchow has expressed the opinion, from appearances observed in post-mortem sections, that this group of uterine flexions, is often caused by an unequal development of the lateral ligaments of the uterus, thus tending to draw the organ forwards, and toward the shortened side. Numerous authors take the ground of congenital flexions without defining very specifically what they mean. Meissner, Boivin and Dugès, Kiwisch, Flamm, Velpeau, Sommer, Picard, West, Jobert, Cazeaux, and Tilt (Hueter) take this view. Bennet describes an anteflexion of the uterus in which there is found no morbid condition of the cervix, either as to size or position, and which he explains as "the result of the congenital exaggeration of the natural anterior curve of the uterus." Comment upon such an explanation is not necessary. The latter author explains the etiology of latero-version, when not caused by adhesions, by "congenital" causes; excepting, however, a left to right position, which is often normal. In this latter opinion Bennet has the support of Huguier. In this connection, the opinion of such a careful observer as M. Goupil demands some comment. In the examination of the bodies of twenty-five infants at the Maternité, still-born, or dead within the first fortnight, he observed nineteen cases of lateral, right or left, versions and flexions, with double lateroflexions and a retroflexion in five others, leaving only one observation in which the uterus was straight.[1] In all these cases M. Corain proved that the round and ovarian ligaments were shorter on the side of the uterine inclination than on the opposite. This difference in length between the ligaments he explains by the position of the rectum and the distention of the sigmoid flexure with meconium; thus, when right lateral version was observed, the rectum was to the left, and in the opposite displacements to the right. In two of the twenty-five cases in which sinistro-version was noticed with the rectum also to the left, the exception was explained partly by pressure of the sigmoid flexure and partly by the difference in the points of the emergence of the umbilical arteries, which turned the face of the uterus to the side opposite to the version.[1]

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[1] The following note by Bernutz and Goupil is of bibliographic interest: Aran (Archives générales de médecine, 1858, 5th séries, iif. 321) a parfaitement étudié cette disproportion des deux ligaments ronds et ovariens, dont il rapporte la première étude à Tiedemann, et qui avait été également signalée par M. Pichard. (Thèse, Paris, 1852, No. 76, p. 79), op. cit., p. 537.

There are several reasons why the observations of Goupil and Corain should be given scant inductive value; first, they prove too much. They prove that lateral flexions and versions chiefly, but all forms in the aggregate, are the rule, and the straight, or so-called normal position and form, the exception. Secondly, the uterus during the period named is not acted upon by intrapelvic forces, but is one of the abdominal viscera, and exposed to the movements and pressure of the neighboring parts; and lastly, these authors are applying to a rudimentary organ the same laws of pathology that we are accustomed to apply to the developed uterus. One word will serve to illustrate this. Inequality being the law in the development of the uterine ligaments, it becomes the rare exception to find this lack of uniformity in adult life. The same error of induction exists in the assertion of Kiwisch and Manuel, that meteorism is the cause of congenital flexions.

Confining the etiological movement to the earliest period of uterine evolution, what are the forces which tend to produce pathological varieties of position and form? This question is not difficult to answer. Broadly, all the numerous forces which tend to arrest, retard, or pervert nutrition—more specifically, the diseases of assimilation and nutrition—the diatheses. Unhygienic conditions of food, air, and exercise; all the errors of moral and social environment which tend to sexual precocity, and thus interfere with the consecutive nutrition of all the parts.

There is marked clinical confirmation of this. The feature which is rarely absent in a case of developmental version or flexion is a defect in the size of the uterus, either of the whole organ or of a part of it, and which points to the arrested, or heteroclitic, nutrition of the part; further, these cases are usually associated with incurable sterility. The foregoing render the assumption a reasonable one that this group of flexions has its origin at the period of uterine evolution and not at the fœtal period.

One class of developmental flexions often met with requires a few words. In the instance of a short vagina and a uterine cervix more slender and longer than usual, the vaginal portion of the uterus takes the short anterior curve of the lower part of the vagina, or of the perineum. The result is an anteflexion of the neck. Cases have been observed in which, while the vagina seemed of the usual capacity, the uterus was of diminished size, and rested permanently upon the floor of the pelvis. Martin has observed retroversion or flexions caused by defective development of the posterior wall.

b. Versions and flexions of the uterus due to defective involution.

In tracing the etiological conditions of versions and flexions closely in the parturient period, we must have regard to the fact that anteversion, or flexion, in a recently delivered uterus, is a normal position. Kiwisch alluded to this important fact first, and since then several observers (Hueter, Martin, Scanzoni) have explained the phenomenon. The enlarged uterus being in the cavity of the abdomen, the vertebral column defines the line of deflection of the organ; to fall backwards is not possible. If, under these circumstances, any cause should interfere with the completion of the involution process, the anteversion or flexion might be made permanent (Kiwisch). From this cause, however, retroflexion is more frequently met with than the opposite form of displacement (Martin, Hueter, Săxinger). The reason assigned is, that after delivery the round ligaments are relaxed, and no opposing force exists to the retroversion of the hypertrophied fundus. Klob has called attention to the fact that the contraction of the round ligaments can never wholly raise the organ. Martin seeks a cause of the puerperal tendency to flexions in the fact that the form of the uterus at this period is the inverse of the infantile organ; in the latter the cervix exists with the body at the minimum; in the former the fundus and body are enlarged, while the cervix remains at less than the *ante-partum* size. He states further, that for about nine days after delivery the uterus may be felt anterior to the cervix, and after that interval posterior to it (Beigel). To this arrest of the puerperal involution process, Dr. Henry Bennet attributes the increased size of the uterus in childbearing women, rather than to inflammation. Lesions of the cervix due to parturition seem to take a large share in this cause.

In this relation the effects of abortions must not be overlooked. Retroflexions especially may be so traced (Kiwisch, Arneth, Picard, Virchow, Scanzoni, Săxinger, Hueter). Injury to the connective-tissue stroma (Rokitansky), and the more lingering character of the retrograde metamorphosis (Scanzoni) after this accident, and which Beigel believes to be a prime cause of the great excess of acquired flexions among childbearing women. Among the poorer classes the same care against exertion and improper diet is not exercised after abortion as after a labor at term. The increased volume of the uterus, and the pressure of the abdominal contents in the relaxed state of the supports of the organ, cause the uterus to leave its normal position and become retroflexed. A state of previous flexion undoubtedly tends to abortion in the pregnant woman, and the two causes may become mutually intensive.

Repeated gestation has a cumulative effect upon the amount and character of the subinvolution. Meadows advanced this theory, and cites Oldham, Tilt, Bennet, West, Duncan, and others. Among 666 cases of versions and flexions observed in unimpregnated women by Martin, 395 cases had their origin in faults of evolution. Since in sterile women anteflexion is the rule, and the opposite form found in about forty per cent. excess among childbearing women, it is usual to find that arrested involution is the main factor in the last-named displacement (Heywood, Smith, Bernutz, Goupil).

The tendency of injuries to the cervix during labor to retard or arrest the retrograde movement to a normal size appears to be due, first, to the impeded circulation and irritative hyperæmia arising from a contiguous focus of inflammation; and secondly, to the extension of inflammation as a result of anatomical continuity of tissue. Owing to the peculiar character of the uterine mural circulation, retarded circulation or hyperæmia may be confined within restricted areas, hence an injury to the posterior part of the cervix might lead to an arrested involution of the posterior uterine wall, with primarily a retroversion degenerating into a retroflexion as a secondary result. Relaxation of the uterus at the puerperal period gives rise to a softened condition of the parenchyma, resulting in flexion and catarrh of the organ. From such a state Klob holds that ante- is more often produced than retroflexion, due to an excess in bulk of the posterior over the anterior wall.

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[1] Orth reported to the Berlin Obstetrical Society (March 7, 1875) a case of anteflexion so exceptional that I give it in the original. A child of two years. The broad ligaments are equal; the fundus easily elevatable. As cause of the anteflexion, two abnormal folds appear in the recto-uterine excavation, which arise in the neighborhood of the internal os and coalesce by means of a broad band. They steady the cervix uteri in such a manner as to allow only the fundus to incline forwards when the bladder is emptied.—*Beitraege zur Geburtshuelfe u. Gynaek.*, Bd. iv. S. 15.

Arrest of the retrograde metamorphosis of the uterus affects the fundus and body of the organ rather than the neck (Hewitt); hence the body, not having support equal to the degree of hypertrophy, bends backwards.

From the softened condition of the parenchyma of the uterus after delivery, it is reasonable to expect that many mechanical causes will operate in the production of versions and flexions. In this condition, prolonged dorsal decubitis has been known to cause retroflexion (Martin, Sommer). Leaving the bed too soon after delivery has been noted by numerous authors as a cause of flexion (Kiwisch, Rigby, Moir, Martin, Sãxinger, Hodge, Meissner); also bodily exertion or muscular efforts, such as laboring women are obliged to make, have been regarded as a potent cause of flexion (Lackner, Brünninghauser). From the first cause Scanzoni states that he has found it existing in the proportion of thirty-two in seventy-two cases.

Picard has traced cases of flexion to menstruation coming on prematurely, and causing a suspension of lactation, and hence an arrest of involution. Numerous authors have mentioned the causation of flexions in mothers neglecting to nurse their children (Martin, Picard). The mammary gland when excited by nursing, has undoubtedly a most active influence in promoting contraction of the uterus in the early periods after parturition, and thus acting as a physiological factor in normal involution. Among 54 women suffering from flexions, noted by Scanzoni, there were 196 children, only 57 of whom were nursed. It is among this class of women that we should look for the action of defective nutrition, so much insisted on by Martin as a cause of imperfect involution of the uterus. This imperfect general nutrition may be due to malassimilation of food, to the action of disturbing mental causes, to a depressed vitality, the result of frequent abortions or rapid childbearing, or, as is frequently the case, to a scanty supply of proper food, from either the injudicious orders of physicians and nurses shortly after confinement, or to the poverty of the woman. Martin mentions that many of the women in whom he observed the action of these causes were excessively thin.

Martin defines several varieties of versions and flexions intimately connected with the puerperal condition, and based upon the theory of hypertrophy of limited portions of the uterine wall, the result of arrested involution within the areas of hypertrophy. The inference is not a true one, however, that this limited subinvolution is always the result of a morbid process. Dr. Hagermann, of Hanover, states that involution of the uterus after labor does not take place in all parts of the organ with like rapidity, but takes more time at the placental site. Assuming that the rate of the retrograde changes is alike for all portions of the body of the organ, the inference is proper that the change is a longer time taking place in the thicker portions of the uterine wall, such as most observers admit to be the condition of the wall of the organ at the point of placental attachment.

Martin describes the following varieties:

1. Anteversion and flexion, in consequence of lengthening of the posterior uterine wall and defective involution of the placental site during the puerperal state and after.

From this cause there are two groups:

a. Recent anteversions and flexions.

β. Chronic anteversions and flexions.

Under this general head, Martin states that he has verified this etiological condition in 28 cases of living parturient women, and in 2 cases by post-mortem examination. The remote cause of this circumscribed subinvolution without regard to the situation of the placenta, is most frequently a metritis which may have had its origin during the pregnancy, at the time of the delivery, at the lying-in, or from indulging in too early sexual intercourse.

a. Recent (acute) anteversion and flexion in consequence of delayed involution of the posterior wall of the uterus when the site of the placenta. The author analyzes 55 cases, the majority being between the eighteenth and thirty-first years of age—the most active period of the sexual life. Of these, 28 were observed in primiparæ, 10 in the second confinement, 9 in the third, 2 in the fourth, 4 in the sixth, and 1 each in the seventh and eighth labors. Seven of the cases were abortions. The range in time after delivery extends from the fourth to the forty-second day. Of these parturient women, 20 were unable to suckle their children, and 25 stated that coitus was consummated in less than six weeks after labor. A large proportion of the cases were connected with endometritis, or kolpitis; a high degree of anæmia was frequently observed.

β. Chronic anteversion or flexion in consequence of defective involution of the posterior uterine wall, when the site of the placenta.

In this group 86 cases were observed. The duration of the cases, when observed, ranges from nine weeks to twenty-one years: all counting their sickness from the last labor. Over one-third were primiparæ, and over four-fifths did not exceed the fourth confinement. More than fifty per cent. of the cases was observed between the ages of twenty and thirty years. The remote etiological relations were essentially the same as in the first group (*a*).

2. Retroversion or flexion of the uterus in consequence of lengthening and thickening of the anterior uterine wall when it is the placental seat.

Of this division, it is essential to their causation that the placentæ have their site on the anterior wall, and not at the fundus, with part on the anterior or part on the posterior wall. Martin comes to the same conclusion with Rokitansky, Klob, and others, that in these instances of partial restitution of the organ, the submucous connective tissue is reconstructed in a faulty manner, and thus disposes the organ to version or flexion.

a. Recent (frische) retroversion and flexion, within eight weeks after labor.

β. Chronic retroversions and flexions.

a. Of the group of recent cases Martin analyzes 49. About twenty-eight years of age is the period of greatest frequency. The time during the parturient period in which the error of form or position was discovered was in 16 in the second week, 10 in the third, the remaining cases being distributed about equally in the weekly intervals up to the eighth week. In 14 cases the last preceding birth had been either premature or an abortion.

β. Chronic retroversions and flexions of this group were observed to the number of 205 cases. Abortion occurred in the history of one-fourth of the cases. In nearly 25 per cent. the cases were primiparæ, and in 85 per cent. the number of previous births did not exceed the fourth. The largest proportion of the cases observed, 61 per cent., occurred in the decade between 25 and 35 years, showing the potent etiological conditions existing in frequent labors or abortions. The majority of the cases were connected with impaired nutrition.

3. The following causes may be regarded as remotely affecting the restitution of the uterus after delivery, or as setting up morbid processes in the organ, which tend immediately to the production of versions or flexions. Partial spasm of the uterus after delivery, or adherent placenta (Siebald). Irregular labor-pain, tetanus of the uterus (Mende). Absence of uniformity of uterine contraction ; injudicious drawing on the cord ; shortness of the cord (Mende, C. Mayer) ; or, that flexions may be caused by cramp (Bauer).

c. Causes existing in inflammatory and other conditions due to parturition.

In the child-bearing woman it is difficult to isolate inflammatory processes due to parturition from those which may arise from other causes. So important a factor in the production of uterine disease is parturition and its attendant conditions, that it deserves separate consideration. One important effect of inflammatory action has been touched upon in the arrest or retardation of the involution process (*b*). There is left for us to consider those more evident inflammatory post-partum conditions.

A cause which leads to the speedy development of flexions is the relaxation of the mass of pelvic tissue due to intense inflammatory processes. Softening, as a primary result of acute inflammation, must precede all other etiological antecedents of flexions (Thudichum).

Interstitial hypertrophy and general or partial corporeal indurations must, from the nature of things, be secondary conditions. Inflammatory softening having occurred, two conditions develop flexions : pressure of the superincumbent abdominal viscera, and the gravitation of the uterus itself. It is probable that only in this state of the organ can Dr. John Williams's idea of flexion from gravitation be true. Its operation in any other condition of the uterus may be ignored. Inflammatory hypertrophy may be general, or corporeal, or cervical. In the former retroversion is the more common result ; Bennet says anteversion. In hypertrophy of the cervix, anteflexion of the neck usually results. Dr. Meadows says "that chronic metritis and so-called hypertrophy tend, sooner or later, to the production, first, of retroversion, and finally of retroflexion." We may, however, believe with Beigel that a direct etiological condition consists of tissue alterations at the inner os, and enlargement of the fundus and body, in which case retroflexion could be a necessary result without a preliminary retroversion. With this inflammatory tissue-softening at either the inner os or in the body of the uterus, it is not remarkable that flexions result through the strong action of the abdominal muscles, as in lifting, springing, straining, coughing, sneezing, vomiting, or in difficult defecation (Rigby, Arneth, C. Mayer, Kiwisch, Sommer, Rockwitz, Moir, Hueter). Thickening of a wall of the uterus after delivery, subsequently followed in the healing process by retraction or atrophy of the affected side may act as a cause (Boivin and Dugès, Meissner). Martin found in twenty-eight cases of flexion an inflammatory post-partum thickening of the cervix. Post-partum engorgement and hypertrophy is a most frequent cause of versions due to the increased weight of the uterus (Henry Bennet, Boivin and Dugès, Lisfranc). Excessive vomiting under these conditions has been observed as causing flexions (Conway, Edwards). The inflammation due to obstetric operations frequently terminates in flexions of the uterus. The dorsal position, long maintained after delivery, particularly when the binder is firmly applied over the lower bowels, promotes retroversion or flexion (Martin). Premature exertion on the part of the lying-in woman while the uterus is normally undergoing the restitution process, and without necessarily exciting inflammation, but as the simple result of a mechanical force acting on a softened uterus may cause or predispose to version or retroflexion.

d. Causes due to inflammatory and other conditions not parturient. Much difference of opinion exists as to the possibility of a traumatic, or, what is nearly the same thing, an acute flexion. Kiwisch was the first (Hueter) to demonstrate that the normal uterus, taken from the dead subject, could not be given a flexed form at will, since the firm tissue, the considerable thickness, and slight length of the organ, with its marked resilience, resist such a change in form. Dr. Squarey assumes that traumatic flexions are due to the rupture of uterine fibres in women previously healthy ; tissue-changes occurring at the seat of the injury being due to traumatism and not antecedent changes. Dr. Bantock, commenting on this theory of Dr. Squarey, says the curvature would not occur on the side opposite to the injury, except temporarily from swelling of the ruptured fibres, but that the true flexion would be found later at the seat of the injury, from atrophy of the injured tissues. The weight of authority is against any such view. Beigel does not admit the occurrence of so-called acute flexions, except as the result of previously existing uterine disease, as shown by the presence of symptoms referable to the uterus. Scanzoni and Rokitansky believe that tissue-changes, impairing the normal resilience of tissue, and especially the theory of the latter author of the destruction of the submucous connective-tissue layer,[1] exist as a preliminary to flexions.

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[1] German authority upon the theory of Rokitansky is of considerable interest. Dr. Ludwig Joseph concludes an elaborate paper, Beiträge zur Etiologie der Uterusflexionen, in Beiträge zur Geburtshülfe und Gynäkologie, Bd. ii. p. 133, in the following emphatic words of disapproval : "Rokitansky's theory of the normal structure of the uterus and the origin of flexions is untenable, since the anatomical basis on which it rests does not exist."

Hueter simply admits that with these submucous connective-tissue changes at the inner os, strong muscular effort, particularly of the abdominal muscles, may increase the angle of flexion. Hewitt admits a modified acute flexion brought on by muscular effort during menstruation, and cites a case. West and Sommer hold, with Squarey, the idea of acute primary flexions; but we may safely exclude this from among etiological conditions except such as exist as a result of tissue-changes, and which are only fully realized in the chronic form of flexions.

The catarrhal inflammation of the uterine cavity, either of the neck or body, owing to the changes induced in the mucous membrane and contiguous layers, is a constant source of versions or flexions. So commonly is this inflammation present that it is rare indeed to find a childbearing woman suffering from a version or flexion in whom evidence of endometritis is not found. We have but to recall the obliteration of the internal os, the thickening and tenderness of the walls, the hemorrhagic and tender mucous lining of the fundus as the result of a chronic corporeal endometritis, in order to realize how readily these conditions drift into the necessary antecedents of versions or flexions. Papillary hypertrophy (so-called granular erosion) of the os, acting by the extension of the inflammatory process, in which it has its origin, to contiguous parts, and thus invading the cavity of the cervix, must be given causative value. When retroversion remains after the cure of erosion (Bennett), it is evidence that inflammation is yet lurking in the cavity of the cervix. The endometritic inflammatory conditions often taking place from deranged or arrested menstruation by taking cold, can also lead to those tissue-changes which result in flexions or versions. Cases of flexion which seemed to be traceable to these sudden outbursts of inflammation of the endometrium, led Martin to the idea that these flexions were often caused by rheumatism of the organ, from taking cold.

Specific inflammation must be regarded as a factor in the production of versions or flexions. It is rare to meet with a woman who has been infected with a blennorrhœa that is free from these errors of form or position. Profuse menstruation, or metrorrhagia, aside from their causative relation, may, by the ramollescence of uterine tissue, result in these displacements. For the same reasons, dysmenorrhœa, either congestive or obstructive, may, by inducing, first, softening of tissue, second, inflammatory congestion and hypertrophy, result in flexion. Injury to the cervix and to the cavity of the cervix by inflammation in near parts as a primary, and from atrophy, or cicatricial shrinking of the injured point as a secondary cause, has an important bearing. The latter cause, when acting on a point near the inner os, must almost inevitably result in flexion.

Atrophy of the uterine muscular substance, especially that form which follows puerperal involution (Klob), needs but the operation of an exciting cause to develop a flexion of the organ. This form occurring at an early period of childbearing life, may produce a serious form of the displacement. Marastic atrophy, taking place generally at a later period of life, is of less consequence in a surgical point of view, although equally potent as a cause of flexion. In aged women with a relaxation of the uterus, the pressure of the intestines upon the fundus of the uterus causes an anteflexion (Klob). Rokitansky describes a peculiarly developed transverse vein in women who have borne many children, which passes through the anterior part of the cervix at about the inner os, and which, by developing its lumen at the expense of the resistance and solidity of the uterine wall at that point, permits the organ to anteflex. Klob mentions having seen these veins a line and a half in diameter, Cases of flexion have been traced to elongation of the utricular glands, and which, by growing into the submucous layer at the region of the internal os, materially weakens the organ, and thus permits the development of flexion. An exuberant production of the ovula Nabothi, and by their enlargement causing an atrophy of the uterine tissue, may tend to flex the uterus in the same way; or, by subsequently bursting, develop a loose, reticular structure, which renders it impossible for the uterus to hold its normal form (Rokitansky, Hueter, Klob).

e. Versions and flexions due to morbid uterine growths. Various morbid products developed in the uterine wall tend to produce versions or flexions. It may so act in two ways: first, by dragging the uterus toward the side of the greatest gravity—a version resulting; or, secondly, by inducing an hypertrophy of the wall involved in the direction of its long axis, and therefore inducing an approach of the fundus and cervix toward the shortest side—thus causing a flexion. The situation of the morbid growth in the uterine wall when high or toward the fundus, may retrovert or antevert the organ; when near the vaginal junction, upon the same side, it may force the uterus to the opposite side. The law seems to be: that for small fibroids—the size of a walnut—near the fundus, version occurs toward the side involved, as the result of gravity; when at the supravaginal cervix, anteflexion results toward the opposite side, from the pressure of the growths upon the near parts. Hueter expresses the law of version or flexions from this cause by a diagram in which a line intersecting the centre of gravity of the uterus, midway between the fundus and os externum, is drawn perpendicular to the horizon. Tumors situated laterally near the fundus, in either wall, anteflex the uterus, and when developed in the lower part or middle of the posterior wall, induce the opposite form of displacement. When the growth becomes large enough to impinge upon the brim of the pelvis, it acts as a displacing force, forcing the uterus in a direction opposite to its seat of development. Kiwisch has observed lateral flexions or torsions from the presence of uterine fibroids following a somewhat similar law of displacement. Intrauterine polypi, when of small size, produce, oftentimes, a retroversion similar to that caused physiologically by a pregnancy under the third month. When these growths are pedicular within the cervical cavity, anteversion or flexion is generally the result. When of sufficient size to force the fundus uteri above the brim of the small pelvis, versions or flexions backwards, caused by the earlier stages of growth, disappear, and the uterus becomes anteverted or anteflexed (Boivin and Dugès, Kiwisch, Velpeau, Sommer, C. Mayer, Rockwitz, Scanzoni, Hodge Sims, Säxinger, Hueter, Gusserow).

B. Causes existing in pelvic inflammatory conditions.

a. Versions and flexions due to adhesions of the uterus to near parts.

b. Versions and flexions caused by inflammatory exudations.

c. Versions and flexions caused by cicatrization of pelvic tissue.

a. It is not a thoroughly settled point in etiology, whether, when adhesions are found coexistent with flexions of the uterus, the flexion of the organ was not a condition prior to the adhesions. Tilt and Scanzoni both concur in the belief that adhesions are often the result of prolonged misplacement. The displacement and the adhesions may, however, be the co-result of a common factor, and the two conditions mutually prolong the existence of each (Bennet, John Williams). A common form of flexion from adhesion is that in which the vaginal portion has contracted adhesion with the vagina—generally that of the posterior periphery of the cervix to the posterior vaginal wall (Rockwitz, Velpeau). Sommer states that adhesions of this character are often the result of ulcerative processes of the uterine neck. In this situation one might readily confound the cicatricial contraction of old ulcers with simple adhesions. In this manner adhesion of the cervix may cause flexion, the body remaining unchanged in form, just as the body may become flexed while the cervix retains its normal form and position (Hueter).

According to Virchow, flexions are caused by adhesions of the uterus when the organ has not the necessary movement in the antero-posterior direction. Anteflexion is produced when the fundus uteri is so fixed that in the expansion of the bladder it cannot be moved backwards. The fundus then lies close upon the posterior wall of the bladder, and as the cervix is fixed, it follows that the thinnest point on the uterine body—that where the body and cervix unite—is the seat of flexion. That flexions are for the most part the result of partial inflammations of the peritoneum, in which the exudation is organized into connective tissue which causes firm adhesions, and which, later, causes the flexion by contraction. The ligaments of the uterus may also participate in both the inflammatory action and the subsequent contraction. Hueter makes a proper comment upon this: It cannot, indeed, be denied that a local peritonitis can develop after a flexion has been a long time in existence. Velpeau, C. Mayer, Rockwitz, DePaul, Arneth, Picard, West, Manuel, Säxinger, and Hueter, speak of peritonitis with adhesions developing after a flexion has formed. According to Kiwisch, it is especially the exudations which lie to one side of the uterus that cause the lateral flexions. In these cases Martin has noticed the connection of anteflexion with lateral version.

Martin has observed an extremely rare form of retroversion and flexion caused by shrinking of the lig. pubovesico-uterina, the result of inflammatory exudate, or from cicatricial contraction of the anterior vaginal vault. It may be observed to begin with an approach of the whole organ to the anterior wall of the pelvis (antepositio uteri). The lower anterior uterine segment is drawn forwards and fixed. Posterior to the neck the uterine body may be felt, in old-standing cases, forming a sharp angle with the vaginal portion. Of the 28 cases observed by Martin, 22 were married, of which 19 were sterile. The accident appears to be one belonging to early adult life, 19 of the cases coming under observation previous to the thirtieth year. Another variety of this form of uterine displacement is caused by traction of a ligamentum ovarii and fixation due to a small ovarian formation. In this form the uterine body forms an angle with the cervix, backwards and laterally to the side on which the diseased ovary lies. This state of affairs exists only when the ovarian cyst is small. When the tumor increases in size the uterus becomes detached from its surface. In this class the uterine body may be either retroverted or retroflexed.

A rare form of anteversion and flexion has been traced by Martin, to contraction of one or both round ligaments, and by adhesive exudation upon the anterior peritoneal surface of the uterus. The body of the organ can be felt behind the os pubis with more or less absolute fixation. The flexion is generally at an obtuse angle, and when due to the shrinkage of one lig. rotunda is placed obliquely. Thirty cases were observed. Masturbation was noticed as a remote cause. The shrinkage involving the ligaments is usually due to exudative inflammatory processes in the peritoneal covering. Abegg has verified, by a post-mortem, that a state of complete anteversion was dependent on old adhesions anteriorly, and also between the posterior uterine surface and the small intestines, the lumen of which was much narrowed.[1]

Anteversion and flexion due to shrinkage of the sacro-uterine ligaments, or to inflammatory plastic exudation upon the peritoneal covering of these parts, is a comparatively common etiological condition.

Martin observed 37 cases of anteflexion, and 18 cases of retropositio uteri from this cause in a total of 217 cases. From fixation of the lower uterine segment to the posterior pelvic wall, the organ is often in a state of retroposition, the corpus and cervix uteri both being flexed forwards. This condition is usually found early in the morbid process. Later, from the action of the rectal contents, retroposition disappears, and anteflexion is the prominent feature. Martin's pathological investigations throw considerable light on this condition. The exudation of pseudo-membrane with spots of discoloration was found upon the posterior wall of the uterine neck, and upon the peritoneal covering of the hollow of the sacrum. Schultze observed 71 cases in a total of 250. Of this number, 22 were virgins, 37 had borne children with many abortions. Schultze lays stress upon mechanical causes, as in too violent coitus, coitus with a proportionately too long penis, drawing of the Douglas folds in great efforts at defecation, instrumental deliveries. Martin regards septic poisoning, taking cold during or near the menstrual period, bathing—especially sea-bathing—as common causes of perimetritis posterior. Gonorrhœal infection is a common cause (Martin, Duncan, Bernutz). Freund has described a chronic atrophic posterior perimetritis in which inflammatory hyperplasia of the connective tissue naturally leads to shrinking of Douglas folds by absorption of the exudate. P. Müller dissents from the conclusions of Schultze—that the condition of perimetritis posterior as a cause of flexion in multiparæ is not a frequent condition; that when shortening of the lig. sacro-uterina does occur, it is probably an additional complication, and that functional arrest of the sexual organs is due to the flexion and not to the complication.

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[1] Aran says: Dans l'anteflexion les lig. suspubiens sont tendus, résistants et surtout très-courts. Dans la latéroflexion, le lig. suspubiens correspondant au sous de la flexion est constamment racourci tandis que celui du coté opposé est tendu et allongé. (Leçons clinique, Maladies de l'uterus, p. 389.)

b. Versions and flexions caused by inflammatory exudations (phlegmons). In this group, the error of position is due to the displacing force exerted by the inflammatory mass thrown out in the intrapelvic cellular tissue. Anteflexion with a lateral inclination is a common form of deviation of the uterus from this cause, as the Douglas pouch, or its lateral margins, is obnoxious to pelvic phlegmon or abscess. The largest of these inflammatory exudations, from often having their seat intraperitoneal, instead of intracellular, induce displacements of the uterus, the extent of which is only limited by the opposite pelvic wall. Usually, ante- or retropositio uteri is due to a traction-force in the direction of the displacement; but, in this etiological group, these errors of position are caused by a displacing force pushing from behind. This displacement of the whole organ gradually disappears on the evacuation of the abscess or resorption of the phlegmon; and version or flexion occurs from the persistence of adhesions, or shrinkage in the wall of the abscess. While adhesions and fixation are marked features in the uterine displacement, yet the adhesions in the early stage take no part in the displacement, that, seemingly, being dependent upon the crowding of the inflammatory mass. The extent to which the uterus is sometimes distorted from its natural form and position by this cause is remarkable. Duncan mentions cases in which a hard tumor was felt in the iliac fossa—an extension, apparently, of the phlegmonous mass—but which, on an examination by the sound, proved to be the uterus, which had been driven out of the small pelvis by the exudation, and carried to one side by adhesions. Bernutz has described cases of periuterine lateral phlegmons involving the lower uterine segment, in which the cervix, instead of being pushed away, is drawn into the affected cul-de-sac. In other cases recorded by this author, latero-versions, which were the most frequent of all the displacements, were observed connected with torsion of the uterus on its axis as the margin of the tumor was advanced.

c. Versions and flexions caused by cicatrization of pelvic tissue. This is a group of uterine deviations valuable only in its etiological relations. These are caused mainly by (1) the contraction of abscesses in suppurative parametritis, by (2) fistulous openings into the bladder or rectum, and by (3) contractions following the too free use of caustic applications to the vaginal vault or intravaginal cervix.

The contraction of pelvic connective tissue involved in severe cases of parametritis is sometimes extensive, but usually not to the extent of arresting the function of the uterus. The lateral margins of the recto-vaginal sac being common seats of these abscesses, lateral versions and torsions are very common results. When developed in the vesico-uterine cellular connections within the common peritoneal covering of the two organs, and finding spontaneous exit for the contents of the abscess through the bladder, subsequent contraction of the sac may develop a strong and nearly immovable anteversion. When the abscess escapes through the anterior vaginal wall, subsequent contraction of the fistulous track and opening may cause an approach of the whole uterus toward the pubes, when the entire vesico-uterine connection is involved. Cases may occur in which, while the fundus is movable, the cervix is drawn forwards by contraction of the anterior vaginal wall forcing the uterine fundus into the hollow of the sacrum. A retraction of the cervix from cicatricial contraction of the posterior vaginal cul-de-sac, may result from the persistent, free, or bungling use of caustics. In the days of free cautery, now happily past, it was not unusual to find the posterior cul-de-sac obliterated, and the posterior labium reduced to a trace, while the fundus was thrown forwards in a nearly incurable anteflexion. There seems to be no reason why the posterior cul-de-sac and uterine lip should be the seat of this destructive cautery except that from the position of the patient upon her back these parts more directly confront the operator.

Vesico- and recto-vaginal fistulæ, with the more or less extensive slough attending these accidents, cause an almost endless variety of versions, flexions, and torsions. Sloughing at the base of the bladder quite generally causes retroversion. Cases are noted in which the uterine cervix becomes incarcerated in the contraction following an extensive slough, the organ becoming almost inverted and the uterine cavity opening into the bladder. The author has closed fistulæ so complicated, in which the subsequent menstrual fluid escaped through the urethra. The numerous cases recorded by Emmet and Hayes Agnew quite generally involve distortion of the uterine position or form.

c. Causes due to non-inflammatory pelvic conditions.

a. Versions and flexions due to pelvic and other malformations.

b. Versions and flexions caused by pelvic tumors, extrauterine pregnancy, and periuterine hematocele.

a. Versions and flexions due to pelvic and other malformations. Stalz mentions having found lateral flexions in rachitic deformity of the pelvis. Boivin and Dugès mention as favoring conditions an increased curve of the sacrum backwards and an undue prominence of the sacro-vertebral angle. Excessive capaciousness of the pelvis tends to expose the uterus to the action of exciting causes (Hensley). Strong inclinations of the pelvis favor the development of anteflexions, and a capacious pelvis and slighter inclinations dispose to retroflexion (Holst). A narrow and incomplete development of the pelvis—resembling, in many respects, that of the male—observed in cases of menischesis, is often found connected with flexions of developmental origin, with which, however, it seems to hold no etiological relations, but both are co-results of common factors.

Changes in the lumbar curve induce changes in the direction of the long axis of the uterus relatively to its neighboring parts. Aveling gives the normal pelvic angle at 54°, but as the curve of the lumbar vertebræ lessens, the pelvic angle becomes debased. In the last condition the abdominal viscera, instead of being supported by the lower margins of the abdominal walls with a solid base over the os pubis, gravitate within the cavity of the pelvis and force the uterus downwards in a prolapsus, or forwards, or backwards. All exercise upon the feet exposes the pelvic viscera to a series of succussions, that intensify the action of the original cause. The lumbar curve was observed in a number of cases of versions and flexions, by taking an impression of the back on a strip of sheet lead, and record made of the curve by drawing the outline of the lead, after being carefully removed, upon a sheet of paper. In nearly every case the deep arch normally observed at this portion of the spine was found to be more or less impaired. In the majority of these cases the general health was seriously involved, and the debased curve was explained by the weakening of all the muscular supports of the bony framework of the body. Aveling explains prolapsus of the uterus by this alteration of the pelvic angle, but when we conceive that this angle may, from this cause, be reduced to 27° or 25°, it is evident that prolapsus cannot be a more frequent result than versions or flexions. Figs 6 and 7 give a good idea of the mechanical effect of this alteration in the curvature of the lumbar vertebræ.

b. Versions and flexions caused by (1) pelvic tumors, (2) extrauterine pregnancy, and (3) periuterine hematocele. In this group versions and flexions are due to displacing forces. The list might be extended to several other conditions which are rarely noticed, such as exostosis within the pelvic cavity, and displacing forces having their origin in the abdomen. Pelvic tumors, other than uterine, hold etiological relations to versions and flexions principally when of small size. New developments in the ovaries, broad ligaments, and tubes have been noticed by Rockwitz as frequent causes. Head has found retroflexion connected with small ovarian enlargements. When ovarian cysts attain considerable size, if the uterus preserves close adhesions to the tumor, the organ is generally distorted in the direction of the growth of the cyst. When growths of this nature have invaded the abdominal cavity and the uterus has become detached from its wall, the organ may become flexed by the downward pressure of the abdominal contents; the direction of the flexion depending very much upon the form of the displacement existing at an earlier stage in the growth of the tumor. Ascites may produce flexions in the same manner, and which, theoretically, in case of impaired lumbar curve, should be anteflexion or version, and in cases in which the pelvis preserves its normal angle retroflexion should be the result. To the same class of displacing force meteorism belongs, which is mentioned by Kiwisch and Manuel as a cause of flexions. Parry has observed that extrauterine pregnancy most commonly produces an antero-lateral version with elevation of the uterus; at other times, when the vicarious uterus is developed anterior to the proper organ, retroversion has been observed.

Pelvic hematocele, like the periuterine phlegmon or pelvic abscess, may produce version by displacement. From the action of this cause the displacing force acts uncomplicated by adhesions, since these are accidental, not necessary, attendants. Adhesions may develop subsequent to the primary cause, and make the uterine displacement permanent, or shrinkage of the pelvic cellular tissue following the resorption or evacuation of the extravasated blood may lead to flexion by traction.

D. Causes due to the condition of contiguous parts.

a. Versions and flexions caused by the action of the rectum.

b. Versions and flexions caused by the action of the bladder.

c. The perineum, the vagina, and the uterine ligaments in their effect on the form and position of the uterus.

a. That versions or flexions may be caused by the action of the rectum and the various sets of muscles involved in the act of defecation there can be no doubt. Dr. John Williams has carefully studied this subject. Throwing out his theory concerning any normal relation of the fundus of the uterus to a line continuous with the anterior surface of the spinal column, with which he has needlessly complicated the subject, he is undoubtedly correct. In the act of defecation the bladder is first emptied; secondly, the rectum. By the completion of urination, both the uterine fundus and the bladder sink lower in the pelvis. In case of constipation, so common among women, straining is then made and the fundus forced still lower, and, having reached the maximum of descent, becomes fixed. The cervix in this condition is pointed nearly horizontally backwards, and being now the most movable part of the uterus, bends upon either itself or the uterine body. This process, by frequent repetition, may become the cause of permanent anteflexion. In case the uterus is in a state of slight retroversion from vesical distention, the straining effort then forces the fundus into complete retroversion, and the lowest point of descent is reached. At this stage the fundus becomes the fixed point of the uterus, the uterine body being also held by the posterior vaginal wall, while further straining effort forces down the cervix. Thus retroflexion results. The anterior vaginal wall may also take part in this process, when, by the fundus being forced deeply into the Douglas pouch, it is placed upon the stretch, and prevents further upward movement by the cervix.

Simple rectal distention from the accumulation of fecal matter, has been known to cause anteversion. Bedford records such a case. Gustav Carus refers an anteversion to the accumulation of feces in the sigmoid flexure of the colon and upper part of the rectum. Rectal distention united with the violent muscular efforts to expel the contents of the rectum, combine two of the factors of anteversion or flexion (Boivin and Dugès, Scanzoni).

b. The action of the bladder in causing versions and flexions may be regarded as a minor factor. Boivin and Dugès report a case in which distention of the bladder caused a retroversion, and regard this as a frequent cause of retroversion of the pregnant organ. After delivery, distention of the bladder may act as an exciting cause of retroversion (Protheroe Smith, Denman). Baker Browne cites Sir Charles Locock as reporting a case in which excessive distention of the bladder caused a retroversion in a young, newly married woman. Hewitt credits the bladder with more power to induce retroversion than the rectum has to cause the opposite form of displacement. The bladder, from its position, offers a certain amount of antagonism to a forward displacement of the uterus due to rectal distention.

c. The perineum, the vagina, and the uterine ligaments, may take a subordinate part in the etiology of versions and flexions. Tyler Smith believed that rupture, or impairment of the perineum was a frequent cause of retroflexion. If we regard the vagina as part of the machinery of uterine support, there is no doubt of the truth of this. As is already mentioned, the perineum, in case of a very short vagina, often takes part in the production of developmental flexions of the cervix uteri. In very extensive lacerations of the perineum, prolapsus, when not complete, must always be associated with retroflexion, or version, which gradually disappears in the erect uterus as the prolapsus reaches the third degree.

Dr. Williams has mentioned cases of retroversion due to elongation of the anterior vaginal wall. Sims also alludes to this cause. In the earlier stages of cystocele, anteversion results from the removal of the usual support of the vesico-uterine connection; but as the vaginal prolapse continues and the uterus also begins its descent, the anteversion disappears. The fundus, before the third degree of prolapsus is reached, may even occupy the cavity of the sacrum. Rectocele and prolapsus vaginæ are of doubtful etiological relation to the subject. Prolapsus of the uterus so quickly develops either primary or secondary in its relations to the vaginal vault, that any other form of uterine displacement is lost sight of.

Boivin and Dugès report a case in which anteversion was caused by an inflammatory congestion of the suprapubic ligaments, occurring at each menstrual period. The inflammation began in the left labium, and the thickened ligament could be traced to the inguinal ring. The same authors regard the utero-sacral and the suprapubic (round ligaments), while being shortened, as the result of long-standing displacement, yet this may ultimately exist with the force of a cause, and render the displacement incurable.

Klob, while giving the round ligaments but little value as a means of support of the uterine fundus, believes that they may render an extreme degree of retroflexion difficult of reposition by fixing the fundus. In this instance the line of traction of the ligaments falls below the junction of the uterine body with the uterine neck, and thus tends to double the uterus upon itself when in the third degree of retroflexion. It is evident from the experiments of Savage, on the structures supporting the uterus, that no slight degree of contraction of the round ligaments would tend to develop version or flexion of the uterus forwards.

E. General and special causes.

a. Flexions and versions caused by posture, incidental to occupation.

b. Excessive sexual indulgence and masturbation as causes of versions.

c. Impaired nutrition and other causes of a general nature, of flexions and versions.

a. The effect of posture, and especially such as is incidental to occupation, may have a marked influence upon the tendency to version or flexion of the uterus. The relation of long-maintained dorsal position to the causation of retroversion in the newly delivered woman has been already alluded to. Many of the modern industries which so largely employ women, are, without doubt, active causes of uterine malposition. This cause is also found to be combined with errors of diet, deficient food, and bad ventilation. The use of the sewing machine is regarded as a frequent cause of versions and flexions (Hewitt, Squarey). Occupations that require long standing upon the feet, such as saleswomen and mill operatives, favor the development of flexions.

b. Overindulgence in sexual intercourse is alluded to by many authors as a cause of flexions. Bennet believes that it may cause a retroflexion of the cervix, and especially if the cervix is rigid from inflammation, and the body of the organ yields to the leverage. In such a condition the cervix is thrust back in ante-, and forwards in retroversion. Routh has expressed the opinion that the uterine congestion that attends orgasm may, by too frequent repetition, become permanent, and thus lead to retroversion. While nothing can be objected to the theory involved in this, yet the examination of prostitutes fails to show that versions and flexions are more frequently met with in this class than in married women. An examination of a large number of the female members of the Oneida Community shows that these women, as a class, are remarkably free from versions and flexions.

Masturbation is frequently alluded to by German authors as a cause of uterine flexions. Martin cites this as a cause of anteflexion from shortening of the round ligaments and adhesive inflammation of their covering. Such cases of masturbation as the author has seen were attended with either versions or flexions, but nutritition was greatly impaired, and extreme nervous depression present, which may have been the more active causes of the uterine displacement.

c. Impaired nutrition, a state of the general health, called general debility and want of tone, from any cause, are regarded by Hewitt as important predisposing causes of versions or flexions. The impaired vital resistance and general arrest of nutrition that attend excessive lactation and rapid childbearing, are often found associated with flexions of the uterus in very evident etiological relations. Emmet states that mental disquietude, ill-assorted marriages, and the various means used to prevent conception are causes of flexions. Diseases of remote organs, especially such as involve the circulation, have been believed to have a bearing upon the causation of changes in uterine form and position. Sommer states that diseases of the heart, attended with obstructed circulation, cause these changes by producing relaxation of the uterine parenchyma. Wright traces such results to retarded portal circulation, which leads to a venous stasis of the uterine tissue.

From the foregoing review of the etiology of versions and flexions, it is evident that the question how these changes—one of form and the other of position of the uterus—may be brought about by nearly identical local conditions, is one of considerable interest. But that these different results of common etiological factors are not mutually interchangeable, the following figures prove beyond doubt. Ten German observers place the proportion of anteflexions at 65 per cent., and of retroflexions at 34 per cent. Emmet, who has had excellent opportunities for observation, makes the difference still greater, being 58 per cent. of the former to .17 of the latter. An examination of the statistics of many writers gives the ratio of retroversions to anteversions as three of the former to one of the latter. Now, while a common cause may in one instance produce either a backward or forward displacement of the uterus, the above figures clearly show that these are not chance results, but are produced by governing causes. Emmet's idea —that a retroflexion is a deviation from a previously existing retroversion—is one that is found running through the writings of various authors, and, to a certain extent, is probably correct. As a preliminary to version, the uterus must possess a normal condition of stiffness and resistance (Squarey). This retards the development of flexion. It is an established pathological fact that changes in the structure of the uterus are indispensable to the existence of flexions (except such as may be caused by parametritis and displacing forces), either in the submucous connective tissue (Rokitansky), or through the parenchyma of the organ (Sommer). These changes may be the direct precedent of the flexion as the result of antecedent pathological conditions, or may supervene upon a previous state of version. The only instance in which a causative condition seems to produce either a version backwards or forwards is in the abnormally movable uterus of Savage. Here, what is anteversion at one visit may be retroversion at the next—most probably due to the direction in which the superincumbent intestines exert their pressure upon the uterus. Bernutz and Goupil have met with similar cases. Squarey tries to show that the uterus is always at right angles to whatever pelvic plane the organ may chance to be situated. Consequently, when the uterus is well up in the pelvic cavity, it is directed forwards; and when low, the fundus inclines backwards. When, therefore, the organ holds the former relation to the pelvis, the operation of a displacing cause produces anteflexion, and the same cause operating in the latter relation produces retroflexion.

ORIGINAL ARTICLES.

URÆMIC AMAUROSIS.[1]

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IF we refer to text-books on ophthalmology, we find that uræmic amaurosis has received but a passing notice. We must ascribe this to the fact that the oculist but seldom has to deal with this disease; for, while it is, on the whole, of rather infrequent occurrence, it remains almost exclusively under the observation of the general practitioner. Consulting works on general medicine, we will, however, be still more unfortunate in seeking a nearer acquaintance with the separate features of the disease, for it generally forms but one of the group of symptoms which threaten such danger to life, that when the patient recovers, they are but remembered as the terrors of the storm that has passed.

While it has long been recognized that transient loss of vision is occasionally observed among the other symptoms of uræmic intoxication, pathology still owes us a satisfactory explanation as to exactly how the eye becomes involved. It cannot be ascribed to the intensity of the intoxication, for examples are not wanting, in which the uræmic symptoms have gradually developed from the headache to convulsions and coma, sight having remained intact, while there are others in which the amaurosis appeared as the only prominent symptom, as is well illustrated by one of the cases to which I shall refer in this paper. But it is not only with regard to the uræmic amaurosis that this obscurity exists; we find it equally difficult to explain the absence of all uræmic symptoms in many cases of kidney disease, in which the urinary analysis and the very pronounced dropsy testify to the existence of grave lesions; while, on the other hand, we are sometimes suddenly confronted with very threatening uræmic manifestations, when the urine may show but a trace of albumen. Again, it is not altogether infrequent that a patient learns that he has Bright's disease after an ophthalmoscopic examination has been made, when before there was nothing to apprise him that he was the subject of so grave an affection; and still the cases greatly preponderate in which, even among the most exaggerated general symptoms, the retinal degeneration just alluded to does not appear. As another example of the great variability in the symptoms of kidney disease, I may allude to the many cases which run their whole course to the lethal end in which dropsy has not been observed. When we contemplate the many irregularities in all the other symptoms of kidney affections, we shall not wonder so much in finding the amaurosis in the one case, and absent in the many in which the symptoms of uræmia are equally or even more outspoken.

The uniform absence of ophthalmoscopic changes would permit us to ascribe the loss of vision in pure uræmic amaurosis to either the presence of poisonous material in the cerebral circulation, and to an effusion into the brain substance or in its ventricles equally well. Retinal alterations in cases of uræmia, with complete loss of vision, are to be regarded as preëxisting, the amaurosis being an additional complication. Cases of nephritic retinitis are occasionally met with, in which there is a sudden and complete amaurosis, accompanied by other uræmic symptoms. There will be no difficulty here to recognize that the intensified eye trouble is due to the uræmia, but it may not always be so readily attributed to this cause when the previously impaired vision has suddenly been changed to complete loss of sight, if the other uræmic symptoms are altogether absent, or present only in a subdued form. In connection with this class of cases particularly, it is always well to bear in mind that, in simple nephritic retinitis, complete blindness is not reached, and therefore, when absolute blindness supervenes, we are generally safe in charging uræmia with the damage done.

Before presenting my cases, I will describe the general characters of uræmic amaurosis. This anomaly of vision, like all other signs of uræmia, is characterized by the suddenness of its invasion, the loss of vision from the first, or in a very short time, being complete. The ophthalmoscopic examination will yield entirely negative results, except in those cases in which retinal degeneration preëxisted. There is no especial form of kidney disease to which the amaurosis is restricted; it occurs in all forms, although, perhaps, more frequently in those met with in pregnancy and scarlet fever. In some cases in which the uræmic symptoms appear at once in these fulminating forms, the patient having been seized with convulsions without any previous warning, and lapsing in a state of coma may awake from this condition and find his sight gone. At other times headache and vomiting alone may precede the amaurosis, which may be subsequently followed by convulsions and coma; on the other hand, in the cases just described, the amaurosis may be the highest point in the intensity of the case, from which the symptoms may recede. As the uræmic explosions may repeat themselves a number of times in the same case, so also may several attacks of amaurosis be observed in one patient.

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[1] Read before the Baltimore Medical Association, 1884.

During these attacks the urine is generally scanty or entirely suppressed, the chemical analysis showing almost always large quantities of albumen. Ebert[1] has called attention to the fact that sometimes the urine, which before had been loaded with albumen, was entirely free of it or showed but traces during the attack, and again revealed it as one of its constituents in appreciable quantities, when it had passed over.

I recently had the opportunity to make a similar observation in the case of a child, who was convalescing from an attack of scarlet fever, when violent headache, persistent vomiting, and œdema of the eyelids presented themselves, during which time the urine showed but a trace of albumen, which, however, greatly increased for a short time when these symptoms had subsided.

The state of the pupils in uræmic amaurosis differs very much according to the accounts of the various observers. Sometimes they are found perfectly normal, or, being somewhat dilated, promptly react to the stimulus of light. At other times they are widely dilated and refuse absolutely to respond to light. It is generally considered that the cases in which the activity of the pupils is maintained, offer the more favorable prognosis as regards the restoration of sight after the patient has recovered from the attack, although even in those cases in which the dilated pupils remained totally unaffected by light, complete return of vision has been observed.

The prognosis upon the whole when the patient does not succumb to the general effect of the poison is to be regarded as favorable. Sight may be reestablished as suddenly as it had disappeared; it may also come back gradually, and, indeed, several days may elapse before full vision is regained. In some cases in which there were several attacks at short intervals, while the patient was relieved of the complete blindness, with which he had been afflicted, still vision remained permanently somewhat impaired. Simpson[2] has reported a case of a lady who had been the subject of an uræmic attack, in her fifth confinement, associated with amaurosis, of which she recovered with perfect sight; and who had a similar misfortune after the birth of her sixth child, but on this occasion sight was but partially restored. In cases of uræmic amaurosis at or after labor, complicated with hemorrhage, part of the damage to vision may be due to the loss of blood, and this may hold equally true to any permanent injury that may remain. I am in this connection reminded of a case, which came under my observation, in which a lady became blind suddenly from hemorrhage on the eighth day after her first labor, having had a severe post-partum hemorrhage immediately after the birth of her child. She gradually recovered sight, but one eye remained considerably impaired.

With regard to the frequency with which amaurosis occurs in uræmic attacks, no statistics have, as yet, been furnished. The cases are upon the whole rather rare, and this induced me to communicate the two following cases, which have come under my observation:

Case I.—Mr. D., æt. nineteen years. Dr. David Street was called to see the patient on November 21, 1883, and found him suffering from bronchitis, for which expectorants were ordered. November 22d he was much relieved, and he continued to improve till November 25th, when he complained of pains and soreness all over the body, which the doctor regarded as of rheumatic character, most marked in the muscles of the arms. For this condition acid. salicyl. gr. vijss, every three hours, was prescribed. In the afternoon of the same day (5 P.M.) total blindness suddenly ensued. November 26th he was still totally blind, and suffered from frontal headache—had taken altogether thirty-five grains of salicylic acid.[1] At 2 P.M., I was requested to see the patient in consultation. Suspecting uræmia, from the suddenness of the loss of vision, I examined the patient with that in view, and found œdema of the eyelids, slight pitting of the lower extremities, and Dr. Street subsequently found the urine loaded with albumen. Ordered one drachm of the fluid extract of jaborandi, every three hours, and wet cups in the lumbar region. The bitartrate of potash was also given in purgative doses. November 27: Sight much improved; perspiring freely; treatment continued. Nevember 28: Sight perfect; patient feeling better; jaborandi continued in smaller doses. I did not see the patient after this time, but from notes kindly furnished me by Dr. Street I am enabled to state that, so far as sight is concerned, as well as the general condition of the patient, the improvement remained permanent, although albumen still appeared in the urine and the microscope revealed epithelial casts and red blood-corpuscles. December 5: Patient well enough to go out, feeling perfectly well, the urine, however, containing a large quantity of albumen. After this date the case passed from the observation of Dr. Street.

This case presents the interest of illustrating how through the amaurosis alone attention was drawn to the true nature of the constitutional disturbance. It is true that œdema of the eyelids, and a similar condition of the lower extremities, were also present, but it is not surprising that they had been overlooked, for it is the common experience that these conditions are only discovered when they are looked for to explain some more important symptom.

Case II.—Mrs. C. R., æt. forty years, having passed seven months of her tenth pregnancy applied for advice, September 2, 1883, in regard to a general feeling of discomfort, which had been developing during the previous few days. She complained especially about a feeling of tightness in the waist and abdomen. At this time her facial expression indicated kidney trouble, and her extremities were œdematous. September 3: The urine sent to me early this morning proved to be loaded with albumen. On this day, at my first visit she felt somewhat better, but during the afternoon a violent headache set in, which became greatly aggravated during the night, and from which she suffered uninterruptedly till morning, when it gradually yielded to large doses of morphia. September 5, at about 4 o'clock P.M., her headache having been greatly relieved, she noticed a dimness of vision, which within an hour culminated in total blindness. I saw her about 6 P.M., when she was suffering from great mental depression, which was probably somewhat attributable to her having been previously anxious about her vision, her mother having lost her sight, and she herself having been considerably annoyed by an irregular astigmatism. At this juncture, I apprised the husband of the great danger that was threatening, and presented the expediency of a premature labor, should convulsions set in. At midnight I was summoned and found Dr. McKnew in attendance, he having ordered chloral and some bromide for the convulsions, which just before had assailed the patient, but had passed off when I arrived. Prof. Thomas Opie was now sent for and just after he arrived another convulsion occurred, for which chloroform was administered; while the patient was under the influence of the anæsthetic it was decided that premature labor should be induced. This part of the case was most skilfully conducted by Prof. Opie by means of a Molesworth's dilator, and delivering by the feet. The operation certainly did not occupy more than half an hour. There was no return of the convulsions, and the patient made a very speedy recovery. Sight returned very gradually, and she did not regain her normal vision till September 7th. The child was born alive, and though small and very feeble for several months has developed into a very healthy-looking babe.

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[1] Transitorische Erblindung bei Typhus und Scharlachfieber. Berliner klin. Wochenschrift, vol. 2, 1868.

[2] Edinburgh Month. Journ. of Med. Sciences, Oct. 1852, p. 369.

[1] I have mentioned the quantity of acid taken, since Epstein has shown that the prolonged use of large doses of salicylate of soda produces albuminuria.

The amaurosis in this case served as the warning of the still further peril that was in store for her, and made it possible to extend the aid which she required, with that promptness which is essential to its success. In cases of this character, which have already gone so far as to render the patient blind, we may take it for granted that convulsions will invariably follow. And both to avoid this eventuality and to guard against permanent injury to sight, if the pernicious influence to which it is subjected be permitted to continue too long, I think it fully justifiable to terminate the pregnancy, especially at a period when the child is viable.

I have already mentioned that all forms of kidney trouble may lead to the amaurosis just described, and I would take occasion to make the suggestion, that the transitory amaurosis that has in isolated cases been observed in intermittent fever, and which has been referred to by Leber,[1] may have been caused by injuries to the kidneys that were inflicted in the congestive stage. I have been led to this opinion by the able paper which Prof. I. E. Atkinson recently read before the Clinical Society of this city, in which he described kidney disease as a complication of malarial fevers.

To summarize, I would say:

1. That when amaurosis suddenly overwhelms a patient in both eyes with no ophthalmoscopic change, uræmia should be suspected even in the absence of any other prominent uræmic symptom.
2. That uræmic amaurosis will continue only as long as the uræmia exists, and will disappear when the function of the kidney is reëstablished. When permanent injury to sight is observed, it may be due to preëxisting retinal changes, not at all uncommon in Bright's disease.
3. That the chances for a full return of sight are somewhat impaired when the patient has been the subject of recurring attacks.
4. That by exhibiting jaborandi and other means for inducing free diaphoresis and by free purgation a catastrophe may be averted in the general forms of uræmia, but when it occurs in pregnancy premature labor is the only remedy which promises safety to tho patient.

LITHOTOMY AND LITHOTRITY IN THE MEDICAL MISSIONARY SOCIETY'S HOSPITAL, CANTON, CHINA, IN 1883.

BY J. G. KERR, M.D.,
OF CANTON, CHINA.

IN THE MEDICAL NEWS for April 7, 1883, a list of lithotomy and lithotrity operations in the Medical Missionary Society's Hospital, for 1882, was published. Of the former there were forty-seven operations, with two deaths; of the latter, twenty-three operations, with one death.

I now send, in continuation, a list of the operations for 1883. The number is not so great as in the previous year, owing partly to the bad state of my own health, and partly to the excitement following the riot of the 10th of September, and the subsequent rumors of war with France.

It will be seen that all the cases operated on during the year have been successful. The only qualification to be made to this statement is in reference to lithotomy case No. 33, in which the result is uncertain, the patient having been taken away while still in a weak, but by no means hopeless condition.

Reckoning from the last fatal case of 1882, there were sixty-seven consecutive cases of successful lithotomy, or sixty-six cases, if the doubtful one, No. 33, ended fatally. The two years give for lithotrity forty-six cases, with one death.

Three females were under treatment for urinary calculus. One of them was relieved by lithotomy, and a large triangular stone weighing nearly two ounces was extracted. It was partly in the urethra, so that the staff could not be passed into the bladder. The long distention of the neck of the bladder had paralyzed the sphincter, and it is doubtful if ability to retain the urine is ever recovered. In other respects the relief of her sufferings was complete. Another patient was operated on by lithotrity, and the calculus removed at one sitting by Bigelow's aspirator. The third female was a girl, who was not in a fit state for the operation.

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[1] Graefe and Sämisch, Handbuch d. gesammten Augenheilkunde, vol. 5, p. 960.

Lithotomy Operations in Medical Missionary Society's Hospital, Canton, China, in 1883.

No.	Age.	Residence.	Occupation.	Duration.	Date of Operation.	Chemistry.	Diam't'r, inches.	Weight, oz.	dr.	scr.	Result	Remarks.
1	27	Nam-hoi.	Weaver.	2 years.	Jan. 10, 1883.	Urates.		0	3	2	Recovery.	Crushed Dec. 30, 1882; cystitis; no fragments came away; median operation.
2	6	Sam-shui.		1 year.	Jan. 11, "	"	1⅛ x ¾	0	3	2	"	
3	36	Shun-tak.	Laborer.	8 years.	Feb. 13, "	"	{ 2¼ x 1¾ { 2⅛ x 1½	4	6	0	"	2 calculi, also 1 in urethra; cystitis; wound healed in 12 days.
4	37	Tung-kun	Farmer.	5 "	Feb. 28, "	"	1⅞ x 1⅝	1	1	2	"	Hemorrhage, controlled by tampon in rectum.
5	14	Tsung-fa.		9 "	March 29, 1883	Urate of Ammo.	1⅜ x 1⅛	1	0	2½	"	
6	21	Fa-ün.	Farmer.	6 "	May 1, 1883.	Urates.	1¼ x ¾	0	3	0	"	
7	11	Ko-iu.		4 "	May 7, "	"	2 x 1¼	1	1	0	"	
8	13	Hoi-ping.		6 "	May 13, "	"	2 x 1	0	7	1	"	
9	13	Heung-shan.		5 "	May 13, "	"	1¾ x 1⅛	0	7	0	"	
10	6	Pun-yü.		4 "	May 19, "	"	1⅞ x 1	0	7	0	"	
11	9	Fa-ün.		2 "	May 29, "	"	1¼ x ⅞	0	2	2½	"	
12	13	Nam-hoi.		1 year.	May 30, "	"	1⅞ x 1⅝	1	2	1	"	
13	10	Tung-kun.		4 years.	June 6, "	"	1⅜ x ⅞	0	4	1½	"	
14	7	Pun-yü.		2 "	June 7, "	"	¾ x ¾	0	1	1	"	
15	17	Pun-yü.		4 "	June 9, "	"	1⅛ x ⅞	0	2	1½	"	
16	22	San-ui.	Trader.	3 "	June 9, "	"	2 x 1¾	0	7	2	"	
17	5	Pun-yü.		2 "	June 12, "	"	1⅛ x ¾	0	2	0	"	
18	4	Pun-yü.		1 year.	June 20, "	"	¾ x ¾	0	1	0	"	
19	10	Pok-lo.		7 years.	July 3, "	Oxalate of Lime	1⅜ x 1⅜	0	5	0	"	
20	33	Heung-shan.	Farmer.	3 "	July 20, "	Urates.		1	1	0	"	Had been crushed twice; median operation.
21	4	Sz-ui.		2 "	Aug. 8, "	"	¾ x ⅝	0	0	1½	"	
22	51	Pun-yü.	Seaman.	2 "	Aug. 9, "	"	1⅞ x 1⅛	1	1	1	"	
23	10	Nam-hoi.		5 "	Sept. 5, "	"	1⅞ x 1⅜	1	0	¾	"	
24	12	Pun-yü.		2 "	Sept. 5, "	Phosph. of Lime	1⅛ x 1⅛	0	7	1	"	
25	16	Pun-yü.	Farmer.	10 "	Sept. 6, "	Urates.	1⅛ x 1⅛	0	6	0	"	
26	24	Tsang-shing.	Farmer.	1 year.	Sept. 14, "	"	1¾ x 1¼	0	6	1½	"	
27	7	Tsang-shing.		4½ years.	Sept. 26, "	"	⅞ x ¾	0	1	1½	"	
28	39	Pun-yü.		4 years.	Sept. 26, "	"	2⅛ x 1⅞	1	7	2	"	Female.
29	21	Tsang-shing.	Farmer.	3 "	Sept. 27, "	"	1¾ x 1⅛	0	6	0	"	
30	8	Kwai-shin.		2 "	Oct. 4, "	"	1¼ x ⅞	0	2	0	"	
31	4	Ko-iu		4 mos.	Oct. 23, "	"	¾ x ⅜	0	0	1	"	
32	5	Pun-yü.		2 years.	Oct. 30, "	"	1¼ x 1	0	3	1	"	
33	10	San-ui.		4 "	Nov. 8, "	"	1⅜ x 1⅛	0	6	0	" ?	Result uncertain.
34	29	Tung-kun.	Farmer.	2 "	Dec. 12, "	"	1½ x 1⅛	1	1	1	"	

Lithotrity Operations in the Medical Missionary Society's Hospital, Canton, China, in 1883.

No.	Age.	Residence.	Occupation.	Duration.	Date of Operation.	Chemistry.	Weight, oz.	dr.	scr	Result.	Remarks.
1	44	Tsang-shing.	Farmer.	12 years.	Jan. 9, 1883.	Urates.	0	1	1	Recovery.	1 sitting; Bigelow's aspirator used.
2	30	Tsing-ün.	Trader.	1½ "	March 8, 1883.	"	0	2	2	"	1 " " " "
3	35	Hoi-ping.	Farmer.	2 "	March 22, "	"	0	2	1½	"	1 " " " "
4	38	Nam-hoi.	Farmer.	3 "	April 28, "	"	0	½	0	"	1 " " " "
5	41	Pun-yü.	Seaman.	2 "	May 17, "	"	0	0	2	"	1 " " " "
6	30	Pun-yü.	Farmer	1½ "	May 17, "	"	0	1	1	"	1 " urethra too small for the tube.
7	26	Pun-yü.	Farmer.	1 year.	May 22, "	"	0	3	0	"	1 " Bigelow's aspirator.
8	61	Heung-shan.	Farmer.	3 years.	May 26, "	"	0	4	1	"	2 sittings; Bigelow's aspirator.
9	24	San-hing.	Laborer.	7 "	May 31, "	"				"	2 " " "
10	61	Tsing-ün.		3 "	July 7, "	"	0	2	0	"	1 sitting; Bigelow's aspirator; patient a female.
11	58	Heung-shan.	Farmer.	4 "	June 8, "	"	1	0	0	"	3 sittings; Bigelow's aspirator.
12	47	Pun-yü.	"		June 12, "	"	0	0	1	"	2 " this case crushed a year ago.
13	44	Tung-kun.	"	4 "	July 27, "	"	0	1	2	"	1 sitting.
14	60	Tsang-shing	"		July 27, "	"	1	0	0	"	2 sittings; Bigelow's aspirator used; this case crushed last year.
15	30	Sam-shui.	"	1 year.	Sept. 5, "	"	0	2	0	"	1 sitting; Bigelow's aspirator.
16	42	San-ui.	"	1½ year.	Sept. 13, "	"	0	1	0	"	1 " " "
17	38	Tung-kun.	"	1 year.	Sept. 30, "	"	0	3	1	"	1 " " "
18	45	Tung-kun.	"	2 years.	Oct. 13, "	"	0	2	1	"	1 " " "
19	58	Tsang-shing.	"	4 mos.	Oct. 16, "	"	0	0	1	"	1 "
20	33	Heung-shan.	"	1 year.	Oct. 20, "	"	0	1	0	"	1 " Bigelow's aspirator used.
21	63	Hok-shan.	"		Oct. 25, "	"	0	0	1	"	1 " " "
22	53	Pun-yü.	"	7 years.	Dec. 16, "	"	0	0	1	"	1 " this case crushed two years ago.

Another patient had renal calculus. There was a fistulous opening in the lumbar region, resulting from abscess, brought on probably by renal obstruction. On enlarging this to remove what was supposed to be a piece of necrosed bone, a small calculus was brought away in the forceps. The kidney had been destroyed by the inflammation attending the abscess, as no urine was discharged from the fistula.

During the year, six deaths from urinary calculus, previous to operation, occurred in the hospital. From one of these the stone was removed post mortem by Dr. J. F. Wales, physician to the foreign community in Canton. It weighed six ounces, and could only be extracted whole by doing damage which in the living subject must have been fatal.

The modification which I have proposed of Bigelow's evacuating-tube has been found, on trial, to work admirably. This consists simply in curving the tube to a right angle, at a point about one-third of its length from the outer end, so that the débris, on reaching this angle, falls by force of gravity into the receiver. This shortens very materially the distance from the bladder to the point where the fragments fall, and, of course, lessens the amount carried back by the current.

THE USE OF COLLAPSIBLE METALLIC TUBES IN THE DISPENSING OF OINTMENTS IN OPHTHALMIC PRACTICE.[1]

BY CHARLES A. OLIVER, M.D.,
ONE OF THE OPHTHALMIC AND AURAL SURGEONS TO
ST. MARY'S HOSPITAL, PHILADELPHIA.

THIS method was brought to the author's notice about two years ago by a suggestion from an artist-patient, and from noting its good use in connection with ointments for general skin disease. He does not in any way claim that the idea is new, but thinks that, after some personal trial, his experience with the plan is worthy of record.

The advantages are several:

First. Cleanliness. The material is enclosed in a perfectly new and clean tube, the drug thus being free from any deleterious influence by access of extraneous matter.

Second. Economy. No more ointment than is absolutely necessary will be used at each application. None can be lost by carelessness, or accident in upsetting, or from breakage, as in glass jars or earthen pots.

Third. No exposure of the drug to the atmosphere. The preparations are practically sealed, the tube always being completely filled; consequently, all of the evil effects from contact with the air are avoided.

Fourth. Readiness of application. There is no necessity for an article to apply the ointment, the tube itself serving as a quick and efficient means.

Fifth. Better regulation of amount to be used. This is obvious when we consider that any degree of pressure can be brought to bear upon the tube in forcing out certain desired quantities of the contained material.

Sixth. Less risk and greater ease in carriage. A small cylinder closed by a tightly screwed cap, is more convenient and safer to have about the person than a box or a pot with a loose lid or top. The tube can be easily carried in a pocket, whilst no amount of ordinary pressure can burst its walls or force the cap.

The objections that have been found are:

First. In labelling. Although this has not been any worse than in the ordinary form of boxes, pots, and jars, yet many attempts have been made to obviate the difficulty experienced by the loosening of paper labels from the body of the tube and the proposed large flat caps. All of these attempts had to be resigned in favor of a wired pasteboard tag.[1]

Second. Free expulsion of the ointment. At first this seemed to present an almost insurmountable difficulty; but, by experiment with a variety of special ointments through different sized openings, the following rough rules were obtained: Vaseline and rose-water ointments, holding small percentages of drugs, as well as nearly all of the oleates, are expulsed with great facility through the ordinary opening of about one-half millimetre diameter. Stiffer ointments, and those containing a powder in any quantity, as a rule, require an increase in the size of the aperture to about two millimetres in diameter.

Third. Chemical decomposition. This is the most serious objection, and the one necessitating the entire abandonment of the method, except in cases either where drugs with no real or harmful affinity for the metals of the tubes are employed, or that they shall practically become inert by the extremely small amounts embodied in the ointments used.

Conclusion. In the dispensing of eye ointments, collapsible metallic tubes are useful by reasons of cleanliness, economy, non-exposure of the contained drug to the atmosphere, readiness and facility of application, better regulation of the amount to be used, and less risk and greater ease in carriage; whilst they are contraindicated by difficulty of expulsion of stiff ointments, and chemical change, causing either a deposition of some of the elements of the tube into the ointment, with a thinning and breakage of the tube walls, or an action upon the contained delicate substance, rendering it either useless or harmful. Consequently, at present, until some better material can be employed in the manufacture of collapsible tubes, it will be better to continue the use of wood, glass, and porcelain, to insure purity of drug and surety of action.

1507 LOCUST STREET.

MEDICAL PROGRESS.

GASTROSTOMY.—MR. PAGE performed this operation at the Newcastle-on-Tyne Infirmary about five weeks ago. The patient was a stonemason, about forty-six years of age, and, except for being a heavy drinker, there was nothing to point to as a cause for the symptoms of dysphagia, which came on gradually, but became very urgent about the beginning of the present year. It is nearly a month since he was admitted to the infirmary, and fully three weeks since the operation. Mr. Page made an incision through the rectus muscle on the left side, and to this the stomach was secured by wire sutures, and opened three days later, the patient in the meantime being sustained by nutrient enemata and hypodermatic injections. When the gastric fistula was fully formed, he was fed through an elastic tube, and at the present time, although he is still being fed by the tube, he has recovered some power in swallowing, and has increased in weight four pounds since the operation. At the time of the operation, he was harassed by a hectic cough, and this somewhat induced Mr. Page to make his opening through the rectus, the structure of the muscle acting in a valvular manner, and so preventing expulsion of the contents of the stomach during the act of coughing. The presence of the tube appeared to give the patient, who was able to walk about the ward, very little trouble. The case is doing well.—*Lancet*, July 12, 1884.

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[1] Read before the Philadelphia Ophthalmic and Aural Book-Club Association, April 21, 1884.

[1] Mention might be made of the possible good use of a well-recommended paste, containing honey and tartaric acid amongst its ingredients, in producing the best adhesion between a paper label and a metallic tube. This was tried, but no reliance could be placed upon the results with the materials employed.

AMORPHOUS BORATE OF QUININE.—Borate of quinine occurs as an almost crystalline powder, of an amber color, slightly distinct odor, bitter taste, but less pronounced than that of hydrochlorate of quinine. It is very soluble in water.

FINKLER and **PRYOR** have given it in capsules in doses of gr. vij to xv, repeated every half hour or hour, so as to give a maximum dose of gr. xlv in from two to four hours. It has been given in the Clinic at Bonn, in a large number of cases of tuberculosis, and in acute and chronic gastric catarrh. There were, among these cases, patients in whom the least error of diet caused vomiting. None of them vomited after taking the borate of quinine, nor did it cause pain when administered to phthisical patients who had chronic catarrh of the stomach. Besides its action on the stomach, borate of quinine may be used in these cases on account of its disinfecting action on the stomach and intestines. The daily absorption of gr. vij to xv, for weeks at a time, causes no unpleasant symptoms on the part of the digestive tract.

Patients with high fever bear the drug well. It seems to be well borne, especially when followed by a little water, wine, or cognac. The subjective troubles, especially the aural, are not so pronounced as after the ingestion of hydrochlorate of quinine. It was tried in 5 cases of typhoid fever, 1 case of septic fever, 3 cases each of pneumonia and erysipelas, and in a typical case of trigeminal neuralgia. It was shown that doses of from gr. vij to xlv always reduced the temperature.

It was observed that after the administration of the borate, there was a sudden and rapid fall of the temperature. By giving it in the afternoon, an evident effect was observed in the temperature of the next morning. By frequently taking the temperature it was ascertained that while the effect of a dose continued for quite a long period, the temperature was not sensibly affected until from two to four hours after the ingestion of the drug.—*Centralbl. für die gesam. Therap.*, May, 1884.

RUPTURE OF THE SIGMOID FLEXURE IN NEW-BORN CHILDREN.—**ZILLNER** made post-mortem examinations of four children, who had died, within twelve or fifteen hours, of peritonitis from rupture of the sigmoid flexure. These cases are interesting from a medico-legal point of view. It was questionable if the rupture was not produced by violence in giving enemata. It seems scarcely probable that any usual violence during delivery could have caused the accident. Zillner also offers the following explanation. During the labor the mother presses upon the abdomen of the child, thus fixing the sigmoid flexure, which is filled with meconium, or else draws it down into the pelvis. Then comes a moment when the pressure on the abdomen is so strong that the sigmoid flexure comes between the lumbar vertebræ or the linea arcuata on one side, and the abdominal walls on the other, until it is compressed tightly and cannot move. The meconium can either slip away toward the descending colon, or into the rectum, slight pressure only being necessary to rupture the upper part of the flexure. Experiments seem to bear out this theory.—*Centralbl. f. klin. Med.*, July 5, 1884.

EXTIRPATION OF THE LARYNX.—A. **PREETORIUS** reports (*Deutsche Zeitschr. f Chir.*, Bd. xix. Hft. 6) a case in which he removed the larynx of a fifty-four year old woman for carcinomatous disease. Tracheotomy was performed fourteen days before the operation. During the operation the larynx was closed by means of Trendelenburg's condom-canula. This remained in place until the afternoon, when Michael's canula with a rubber bag was introduced through the upper aperture of the trachea, and the bag filled with a mixture of glycerin and water. The Trendelenburg's condom-canula, and Michael's with the rubber bag were used alternately for several days. The patient recovered.—*Centralbl. f. Chirurgie*, June 21, 1884.

ARRESTED LABOR FROM RIGOR MORTIS OF FŒTUS.—**DR. ROBERT BOXALL** reports this interesting case, which occurred in the General Lying-in Asylum, York Road. The head would not descend, and the lower blade of the forceps was used to bring it down through the cervix. The blade was then removed, and labor terminated naturally. The fœtus was of a mottled blue color, and stiff.—*Lancet*, July 12, 1884.

CHRONIC HEART DISEASE AND PREGNANCY.—This is the subject of an inaugural dissertation by G. **WESSNER**, of St. Gall, who gives the following *résumé*, after a careful review of the literature of the subject:

1. There is no specific physiological hypertrophy of pregnancy. The heart of the pregnant woman only obeys the general law that the mass of the cardiac muscle increases with that of the body.
2. Other grounds for believing in a physiological hypertrophy are faulty, and cannot be brought into pathological relation.
3. The conditional hypertrophy of the heart, of pregnancy, caused by increased body-weight, is so slight that it can only be considered as a danger in very severe heart trouble.
4. The causes of the unfavorable influence of pregnancy on heart troubles, lie not so much in the in-

creased cardiac activity, on account of the pregnancy, or the pressure suddenly removed by labor, and the high position of the diaphragm, as in the psychical and physical fatigue of labor, which reacts on the heart.

5. But, as statistics show, these are endured in by far the greater number of cases, without especial damage. It seldom occurs that severe heart trouble is specifically due to pregnancy, but it more usually happens that we have to do with very severe heart disease as a secondary complication.

6. As malignant endocarditis occurs especially in the course of old heart diseases, so it also seems to occur after labor, as septic poisoning.

7. The prognosis is considerably better for both mother and child, if it exists from the beginning.

8. The treatment is symptomatic, not the performance of premature delivery, but hastening labor if necessary.

Of this thesis, KRIWOROTOW, the translator, makes the following remarks: Wessner has drawn these conclusions from a collection of 77 cases in German and other literature, which showed various forms of heart trouble at birth. In these cases 42.9 per cent. had no, or only slight symptoms; 19.5 per cent. had severe symptoms; and 37.6 per cent. died. But Wessner, after critical examination of these cases, very much reduces the percentage, while he considers the further complications.

The independently worked up material gives striking and interesting results: Of 25 women with heart disease, which were observed in the Clinic at Berne, there were 93 labors and only 1, a primipara, died. She was twenty-eight years old, had mitral insufficiency and double pneumonia, and during the fourteen days preceding labor had extensive œdema of the lower limbs. The child was born dead. At the autopsy of the mother, who died on the day of labor, the clinical diagnosis was completely verified, the kidneys being also markedly congested. The other 24 women had no especial trouble.—*Centralbl. für Gynäk.*, June 21, 1884.

SECONDARY SUTURE OF THE MEDIAN NERVE.—At a recent meeting of the Academy of Sciences, M. Tillaux related two cases of secondary suture of the median nerve followed by rapid restoration of the functions in the parts depending upon it. The first was a young girl who cut the front of her wrist whilst cleaning some windows in November, 1883. The wound healed without suture of the nerve being performed, and there remained complete paralysis of all the parts supplied by it. Incapable of working, the girl went to the Beaujon Hospital to seek relief. The parts supplied by the median nerve were found to be colder than on the opposite side, and of a slightly violet color. Notwithstanding the discouraging nature of the case, M. Tillaux decided to give the patient a chance. The ends of the nerve were found about a centimetre distant from one another, the central one bulbous, the peripheral atrophied. They were cut so as to present a fresh equal surface and carefully drawn together by a hair suture (*crin de Florence*). An antiseptic dressing was applied and the limb immobilized in extreme flexion. Two days after the operation sensibility began to return and increased daily. Six weeks later she left the hospital with sensibility and movement entirely restored. The other patient was a woman, who, witnessing the result in this case, begged M. Tillaux to operate upon her also, notwithstanding that the accident had occurred fourteen years before. The operation was identical, and the next day sensibility began to return, and was soon entirely restored. The physiological curiosity of these cases lies in the fact that when examined microscopically (by M. Ranvier) the portions of nerve removed exhibited no trace of cylinder-axis, and that it is difficult to explain the restoration of function by our present ideas on the subject. M. Tillaux's observations may be the starting-point of an important discovery.—*Lancet*, July 19, 1884.

ECHINOCOCCUS OF THE SPLEEN.—PROFESSOR MOSLER has recently written a monograph on this subject. Besides the twenty-eight cases tabulated by Niesser in 1877, Mosler has collected twenty-eight others, and from a study of the whole number he draws the following conclusions:

1. Sex seems to give no predisposition toward echinococcus of the spleen.

2. The affection is most usual between the ages of twenty and thirty years.

3. As regards symptomatology, the signs of the tumor may be so slight as to give no symptom during life. In other cases the first symptom is an intense pain after some exertion, or after labor, showing inflammation of the echinococcus cyst.

4. The diagnosis rests mainly on the physical signs, and is difficult. These tumors differ from other tumors of the spleen in their fluctuation.

5. The prognosis of solitary echinococcus of the spleen is certainly more favorable than when other organs are involved.

6. Internal treatment amounts to nothing. The sac must be opened by means of scissors, and Volkmann's method for suppurating echinococcus of the spleen followed.—*Deutsche med. Wochenschr.*, July 3, 1884.

TRACHEOTOMY IN CROUP AND DIPHTHERIA.—DR. LUENING, assistant to Dr. Krönlein, has recently written a monograph on this subject, in which he has collected statistics from 1868 to 1882, including the severe epidemic in Zürich in 1881–82.

Croup and diphtheria are anatomically different, but etiologically and therapeutically one. Of 295 cases twenty per cent. got well without operation, and with a slight degree of laryngeal stenosis. Tracheotomy was performed in eighty per cent. of the cases, and thirty-nine per cent. recovered, giving fifty per cent. of recoveries with and without the operation. The operation seems to be growing in favor from year to year. In 1881 there were forty-five operations in Zürich, with forty-five per cent. of recoveries, and in 1882, up to March, there were forty-five with forty-two per cent. of recoveries.

There is no contraindication against the operation in laryngeal stenosis. It was successful in eleven out of fifty-two children under two years of age. When the child is asphyxiated, and apparently lifeless, the operation must be instantly performed, although, of course, the chances are against recovery. The operation should be performed earlier and oftener.—*Deutsche med. Wochenschr.*, July 3, 1884.

CANCER OF THE PANCREAS.—M. BABILLON, at a recent medical clinic, showed a specimen of cancer of the pancreas, taken from a patient of M. Débove. It presented a number of carcinomatous nodules, as well as a multilobar cyst seated near the inferior border. The patient died within fifteen days after his admission to the hospital. He did not vomit, but the food was simply regurgitated almost immediately after eating. There was no hæmatemesis or melæna, but there was habitual constipation and the abdomen was retracted. The epigastric region was painful and the seat of general puffiness, without appreciable nodules. The diagnosis of cancer of the stomach was made.

The autopsy showed a very large aneurismal dilation of the arch of the aorta. The left lobe of the liver extended across the epigastric region, and contained carcinomatous nodules. There was carcinoma of the stomach, near the cardia, which involved the neighboring lymphatic ganglia. As before stated, the pancreas was chiefly invaded, and contained a collection of puriform fluid.

This case is interesting from several points of view. It would seem that the aneurism of the aorta and the dilatation of the thoracic aorta which ended abruptly at the diaphragm, were perhaps caused in some way by the pressure of the carcinomatous mass upon the abdominal aorta. It is again interesting from the fact that there was no true vomiting, but almost immediate regurgitation of the food after taking it, which led to the diagnosis of cancer of the stomach, and presumably of the cardiac portion; and lastly, on account of the cystic and carcinomatous alterations of the pancreas, which should have been accompanied by glycosuria; but the urine contained no sugar.

Among the many theories which have been proposed to explain the pathogenesis of diabetes, there is one which makes the pancreas play an important part in its causation. According to this theory, which was especially advocated by Popper, and which is sustained by a certain number of anatomical facts, such as fatty degeneration with sclerosis, atropia, cancer, and obliteration of the pancreatic duct; diabetes may be explained in various ways. The sugar produced by the affected pancreas may be insufficiently elaborated, or the obstacles to the performance of the pancreatic functions cause absorption of the pancreatic ferment, which, taken up from the circulation by the liver, renders the transformation of glycogen into sugar more active. Again, the pancreatic disease, by opposing the transformation of nitrogenized materials, causes a state of inanition, and sugar, continuing to form, is not consumed by the organism (Fick and Heidenhain). Lastly, it is said that the affected pancreas, not being able to furnish, for the saponification of fats, a sufficient quantity of fatty acids to combine with the glycogen, and form the biliary acids, there is an excess of glycogen in the liver, and, consequently, the quantity of sugar formed in that organ is increased. The case above recorded seems opposed to the pancreatic theory of diabetes.—*Progrès Méd.*, July 5, 1884.

BUTTON IN THE LARYNX.—SCHRUMPF reports the case of a six months old child, which apparently got a chemise button into its larynx. Tracheotomy was performed, but the button could not be found. The child died of broncho-pneumonia on the fourth day, and the button was found against the posterior wall of the œsophagus at the level of the cricoid cartilage.—*Centralbl. f. Chirurgie*, June 21, 1884.

INTESTINES ADHERENT BEHIND UTERUS.—MR. LAWSON TAIT reports the case of a woman, aged thirty-two years, who presented herself at the Birmingham Hospital early in November, 1883, complaining of constant pelvic pain dating from her last confinement, and much aggravated by the patient having "strained herself" six weeks before. On examination, the uterus was found to be somewhat fixed with a mass behind it, very tender on pressure, and clearly cystic. But for the fact that she complained of no increase of pain before or during menstruation, he should have diagnosed the case to be one of occluded and distended tube. As it was, he made no diagnosis, but advised abdominal section. This the patient readily agreed to, and he performed it on November 8th. He found a good deal of matter in the pelvis, and a coil of intestine adherent in the cul-de-sac. He undid the adhesions without much difficulty and closed the abdomen. She left the hospital on November 28th, and has been entirely free from pain since. He saw her last on July 7th, and found that she has had no return of her old symptoms, and is in perfect health.

This case is a very instructive one, for the physical signs were precisely those of pyo- or hydro-salpinx; and if it had happened that the patient had suffered much at menstruation, he certainly should have set it down as a case of one or other of those diseases. Suppose that, under this belief, he had acted as some (who have had no experience) advise, suppose he had tapped from below, he should have done no good; he would probably have made his patient worse; he might even have killed her. On the other hand, following his rule of opening the abdomen, he was able, with very little difficulty, to cure completely a condition which distressed the patient, which put her in constant risk of her life, and for which no other remedy was possible.—*Med. Times and Gaz.*, July 19, 1884.

SUPRAPUBIC CYSTOTOMY.—ADOLPHE GARCIN has recently published an inaugural essay on this subject. To the 106 cases recorded during the years 1881 to 1883, inclusive, he adds 10 new cases; 9 by E. Boeckel and 1 by J. Boeckel. The purpose of epicystotomy is threefold: first, for removing tumors of the bladder; secondly, for cases in which catheterism cannot be performed; and, thirdly, for the removal of calculi and foreign bodies from the bladder. In the last set of cases the mortality was about 24.4 per cent. Still, of 23 deaths, 12 occurred from pyelitis, erysipelas, etc., and 5 cases out of 11 of infiltration of urine after the operation. The majority of the cases which recovered occurred between the ages of ten and twenty years of age; for these ages the tables show 26 recoveries and only 1 death. As advantages of the operation over the perineal operations may be mentioned: the greater simplicity of the operation, the small amount of hemorrhage, the impossibility of wounding important organs, the ease with which the calculus is extracted, the avoidance of injuries from bruising, the possibility of thoroughly examining the bladder, and of keeping the wound aseptic. The single danger of infiltration of urine and perivesical phlegmon, are also consequences of the perineal operation; besides purulent infection, secondary hemorrhage, incontinence, sterility, and persistence of a fistule, which are also consequences of the perineal operation. It is especially worth of remark, that a fistule has never resulted from an epicystotomy.

The indications for the hypogastric operation for calculi or foreign bodies are as follows: 1. Impossibility of lithotripsy on account of the hardness and large size of the calculus. 2. Calculus formation around a foreign body. 3. Encapsulation of the calculus. 4. Situation of the stone in a sac behind an hypertrophied prostate. 5. Great prostatic hypertrophy. 6. Great narrowing of the urethra, 7. Irritability of the vesical mucous membrane. 8. Anchylosis at the hip-joint. 9. Considerable renal changes. Of course, these indications are to be applied only to males.

It is scarcely necessary to say that the patient should be placed in the best possible conditions of health before the operation, and all irritation of the vesical mucous membrane should be avoided, in so far as possible. In order to render the operation easier, from f℥vj to ℥x of borated or carbolated water should be thrown into the bladder, and ballooning of the rectum be resorted to. The question as to whether the wound should be drained or completely closed up, must be determined by the surgeon in individual cases. Suture of the bladder has been used in 20 cases in the past four years, and only 2 healed by first intention. On the other hand, 7 cases died of urine-infiltration, in 5 of which the bladder was sutured. Garcin advises drainage of the bladder with strong double drainage-tubes, the outer wound being gradually closed from the upper part, by sutures. For dressing he recommends an antiseptic sponge, which acts as a siphon to the drainage-tubes. At the beginning of the second week the drainage-tubes may be generally replaced by the permanent catheter, or by repeated catheterism. By such treatment the process of recovery will generally occupy about forty-one days.

J. J. Macavejev gives (*Vratsch*, Nos. 12 and 13, 1884) a *résumé* of his operations of epicystotomy. He has performed the operation eleven times, and sutured the bladder once. Of the 10 cases in which the bladder was not sutured, all were between the ages of two and seventeen years, and in the majority of the cases there were complications on the part of the urinary apparatus. 5 cases recovered in four weeks, 3 in from eight to twelve weeks; 2 cases died, 1 of erysipelas, and 1 of inanition. In his last case, Macavejev sutured the bladder with catgut, the mucous membrane not being included. An antiseptic dressing was used and the catheter removed on the seventh day. The patient was well in a month.—*Centralbl. für Chirurgie*, June 21, 1884.

Malarial Orchitis.—A. Zacco reports a case of a man, æt. thirty-five years, previously in good health, who had an attack of orchitis on the right side, with a complicating epididymitis, without having had any venereal disease, or any affection of the urinary organs. After this the patient had intermittent fever for three months, complicated with tertian, and later with quotidian, and finally a continuous fever set in with orchitis. Every method of treatment was used without resulting favorably. But after it was discovered that the continuous fever reached its acme about noon, large doses of quinine were commenced on the fourth day, and in two days the patient was very much better. It was observed that at the height of the fever there were slight swelling and pain of the testicles, which, however, completely disappeared with the fever. Zacco believes that the orchitis was due to the direct action of the malarial poison, which had become implanted in the testicles.—*Centralbl. für klin. Med.*, July 12, 1884.

Gangrene of Uterine Fibroids and the Dangers of Partial Extirpation.—Merner (Thèse de Paris, 1884) reports the case of a woman forty-four years of age, who had a submucous myoma, as large as a child's head, situated in the anterior wall of the uterus. An operation was performed and a portion of the tumor was left behind, which caused death in fourteen days by sepsis. This case, as well as other similar cases reported, caused Merner to write up the subject. He concludes that such tumors have a tendency to suppurate and cause death in spite of the most painstaking antisepsis, and he takes the position that all methods of operating which will only partially remove the tumor are bad, and should only be used when no other method can be employed.—*Centralbl. für Gynäkol.*, July 12, 1884.

The Operative Treatment of Tuberculosis.—Dr. A. P. Selenkow (*Vratch*, Nos. 16 and 17, 1884) has an article on this subject. In tuberculosis of the bones and joints the diseased bones were resected, the affected soft parts carefully removed, and an antiseptic dressing applied. In order, however, that the remaining germs should not develop, the dressing and drainage-tubes were removed in three or four days, the secretions pressed out, through drainage established by means of an elastic catheter, and a forcible injection, generally of a ten per cent. alcoholic tincture of iodine, made into the wound cavity. Closure of the wound should be treated by reopening it, and reinjection of iodine. After the superfluous iodine has run out, the drainage-tube should be replaced and a fresh dressing applied. This should be repeated every three or four days until there is no more fluid secretion. Finally the drainage-fistula closes, and a scab forms. On the first appearance of a return of the trouble the fistula must be scraped out again and sytematic syringing employed. No irritation of the wound is seen under this treatment; the vicinity of the wound must be protected from the iodine by a coating of vaseline. Selenkow has used resection in six cases in different joints, two being very extensive injuries. Both healed without the occurrence of fistules. In three of these cases iodoform was also added to the iodine, and directly applied to the fresh wound, or applied in the form of pencils. This form is highly valued by Selenkow, as the energetic action of the iodine seems to supplement the weak but lasting action of the iodoform. Iodoform is equally efficacious after the opening of scrofulous and other abscesses, though it is not to be recommended in congestive abscesses, in which the primary congestion cannot be removed, as for example in spondylitis.—*Centralbl. für Chirurg.*, July 12, 1884.

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SATURDAY, AUGUST 9, 1884.

THE CHOLERA OUTLOOK.

THE favorable cholera reports from the south of France indicate that the disease is fast disappearing from the cities of Marseilles, Toulon, and Arles, though it is gradually extending among the villages north of those places, and has crossed the Alps into some of the smaller towns of Italy. Several "sporadic" cases are said to have occurred in Paris, and one death is reported at Lyons. The total number of deaths from the disease, from its outbreak up to August 2d, is reported to be at Marseilles 1248, and at Toulon 638.

Not only has the progress of the cholera been very slow, but the mortality record shows that its fatal results have been far below those of former visitations, and leads us to hope that it may be held in check beyond the sea by continued watchfulness and the employment of the hygienic and other measures now being applied in the countries more immediately threatened with the disease.

Notwithstanding the favorable outlook, the utmost vigilance should still be exercised by those in charge of health matters in the United States—national, state, and municipal—and there should be no relaxation in the efforts being made to ward off the disease or prepare for its reception. No other disease carries with it such a widespread terror, and as its march is governed by the laws which govern travel, it would seem that its progress should be arrested by an intelligent supervision of those lines of human intercourse which would, unprotected, bring it to us; and that, with the Government's vessels patrolling our coast, with its watchful officers at every port, with our State and municipal authorities guarding the interior lines, and keeping our towns and cities clean, the progress of the disease cannot give cause for serious alarm.

PULMONARY LESIONS PRODUCED BY INHALATION OF PHTHISICAL SPUTUM AND OTHER ORGANIC SUBSTANCES.

IN Virchow's *Archiv* for June, 1884, DR. W. WARGUNIN, of St. Petersburg, publishes his investigations in this line of experimental research. After reviewing the work of Tappeiner, Klebs, Bertheau, Schottelius and others, he concluded that the tubercular nature of the primary lesions in the lungs of animals thus experimented on, was by no means clearly established by their experiments. He then sought, by following out the pathological processes in dogs from the beginning, to determine their nature.

The details of the experiments, which numbered 21, were in all respects carefully carried out. They were arranged in three categories: 1. A series of 11 dogs, in which the fresh sputum of patients suffering from well-characterized phthisis was used for inhalation, chiefly by Seigle's apparatus, but in two instances by a hand-ball apparatus; 2. A series of 3, in which the same kind of sputum, disinfected by carbolic acid and repeated boiling, was used; 3. A series of 7, consisting of 1, in which the sputum of a patient suffering from emphysema and bronchial catarrah, of 4, in which an infusion of Swiss cheese, and of 2, in which an infusion of wheat flour were employed. Two of the dogs in the first series were suffered to live, and showed no signs of illness; three of the whole number died of exhaustion, refusing all food; the rest were killed at various periods after the more or less frequent repetition of the inhalations. The three categories gave in every respect precisely the same result. The clinical picture was in all instances the same, and afforded none of the indications of a general sickness. The anatomical condition of the lungs presented macroscopic appearances exactly resembling acute miliary tuberculosis. Tuberculosis of other organs was not encountered.

Dr. Wargunin subjected all these specimens to careful microscopic examination, and he concludes, from due consideration of the clinical facts, the results, and the histology of the processes in the lungs, that in all cases the process is one and the same, and that it cannot be regarded as tuberculosis. He regards it as a lobular pneumonia, which in many respects resembles the desquamative pneumonia of Buhl. Etiologically, it is, however, to be referred to the category of pneumonia due to foreign bodies. He found that the inflammatory process which begins in the bronchioles, only secondarily affects the alveoli. The lung affection tended to complete restoration of the lung tissues when the animals were placed under favorable hygienic conditions. Instead of destruction of the affected portions of the lung, with the formation of cavities, as he expected, he was surprised to find in two instances upon examination of dogs killed after six months, normal lungs. Koch's discovery of the tubercle bacillus, which was announced as the investigations of Dr. Wargunin were completed, appeared to establish facts wholly at variance with these results.

How could the fresh sputum of phthisical patients containing bacilli and the disinfected sputum, give rise to the same results as cheese and wheat flour? The only reply to this question lies in the assumption that even the bacilli of Koch are not specific. Wargunin does not hesitate to assert to-day that Koch's discovery requires much further corroboration; that it has thus far been worked out in too superficial a way for so important a question; and that it contains in itself much that is problematical. Without denying the parasitic nature of the infectious diseases, he insists that many things must be made clear before the etiology of tuberculosis will become so simple a matter as the discovery of the tubercle bacillus of Koch would appear to make it; in other words, that the doctrine of Koch as to the cause of tuberculosis calls forth a great number of questions which are but imperfectly or not at all answered by that doctrine in its present phase.

The wide difference between these results reached by Wargunin and those of Tappeiner, which were discussed in our issue for May 5, 1883, only goes to show how unsettled must still be regarded this great question of the nature and etiology of tuberculosis. In 18 experiments by Tappeiner in which tubercular sputum was inhaled, 17 were followed by tubercle of both lungs and pleura; in 4 there were in addition tubercular nodules in the kidneys, spleen, and liver. In one instance only was there disseminated desquamative pneumonia; while in Wargunin's 21 experiments summed up above, of which 11 were done with true tubercular sputum and 10 with indifferent substances, in all of the animals which died or were killed, being 19 out of the 21, there was found desquamative or broncho-pneumonia.

Still more striking is the difference when Wargunin's results are compared with those of Koch, as published in the second volume of the Imperial Health Reports. The latter observer employed for inhalation the cultures of bacilli obtained from phthisical cavities. All the rabbits and guinea-pigs experimented upon either died or were killed within 28 days, and invariably the lungs contained numerous tubercles, which were also present in the liver and spleen of those who survived longest. In the rats and mice the same results obtained, but the tubercles were smaller and less numerous.

It must be said of Koch's results that the masses described present many of the characters of caseous broncho-pneumonia, or desquamative pneumonia, and when we remember how entirely Koch's diagnosis of tubercle is based upon the presence of the bacillus, rather than upon any other anatomical criterion, while in Wargunin's observations, made for the most part before those of Koch, the diagnosis was based upon anatomical characters which, until Koch's discoveries, were considered distinctive, we cannot but think that herein may lie the reason of the difference noted. Would Koch and his followers regard the nodules of broncho-pneumonia in Wargunin's dogs as tubercles? Here is an important point to be settled before the true value of Wargunin's, and even of Koch's, experiments can be estimated. Observers must agree upon an anatomical definition of tubercle.

LAPAROTOMY IMMEDIATELY AFTER RUPTURE OF THE CYST IN THE EARLY MONTHS OF EXTRA-UTERINE PREGNACY.

When rupture of the gestation cyst occurs in a case of extra-uterine pregnancy in the early months, the rule which has been urged by most obstetric authorities has been non-interference. But in 1849 an American physician, Dr. Harbert, suggested the propriety of laparotomy; and in 1866 the late Dr. Stephen Rogers, of New York, strongly advocated this practice in a paper read before the Obstetric Section of the American Medical Association. The late Dr. Parry, in his invaluable monograph upon Extra-uterine Pregnancy, published in 1876, gave this treatment his approval, but also stated that it had never been tried.

The trial has now been made, and with remarkable success. *The British Medical Journal*, for June 28th, contains a report of five cases of extra-uterine pregnancy, operated upon at the time of rupture, by LAWSON TAIT, and four of the patients recovered. Such a result is certainly very encouraging, especially when contrasted with that of the usually followed practice of non-interference; for, as observed by Dr. Parry, recovery is so rare that the physician has no right to allow the fact that it may occur to influence him in deciding upon a plan of treatment.

The difficulty of diagnosis has been presented by all who have considered the subject, as the chief objection to performing laparotomy; but Mr. Tait simplifies the matter by stating the question thus: If, however, it be found that the patient has been eight weeks or more without a period, that there is a pelvic mass on one side of the uterus and fixing it, and that sudden and severe symptoms of pelvic trouble and hemorrhage came on, the rupture of a tubal pregnancy may be at once suspected, and if an operation is to be done—and it clearly ought to be done—it must be done without delay.

The method of operation pursued by Mr. Tait is as follows: After opening the abdomen, the tube is tied below the point of rupture and cut off, and then the cyst, fœtus, and appendages, blood-clots and serum, are removed; in three of the cases the fœtus could not be found, but as two of these patients recovered, its being left in the abdominal cavity is shown to be harmless. An adherent cyst or placenta is not to be removed, but drainage of the abdominal cavity is then to be made.

We are glad to know that this plan of treatment, first proposed and urged by American surgeons, and put in practice by the bold Scotch surgeon of Birmingham, has proved so successful, and we feel hopeful that its general adoption will save many lives.

It is somewhat notable that Mr. Tait's statistics of laparotomy are directly the reverse of those given by Dr. Gaillard Thomas, in volume vii. of the Transactions of the American Gynecological Society. Of the results of non-interference in this accident, Dr. Thomas has seen five cases, of which four died, and one recovered.

At a meeting of the London Obstetrical Society, a little more than a year ago, Mr. Tait reported operating on seven cases of extra-uterine pregnancy, six of the patients recovering; two of these operations were done immediately after the rupture.

THE ABRUS POISON.

The seeds of the jequirity plant have been very extensively used in India for criminal poisoning, especially of cattle, and have been employed to some extent as a remedial agent. Further, MM. Cornil and Berlioz announced last year to the French Academy that their poisonous powers were due to the presence in them of a peculiar microbe. This, if true, is a most extraordinary fact, indicating that everything is to be resolved finally into germs, and making it probable that hereafter man will be found to be nothing but a compound animal, a sort of branching coral with the bones secreted by the innumerable polyps or microbes of which the human compound organism is formed.

These circumstances lend both practical and scientific interest to the elaborate investigation just completed by Surgeons C. T. H. Warden and L. A. Waddell of the Medical College Hospital, Calcutta. We are glad to announce and believe that there are other things in the universe besides bacteria, and that the *Abrus precatorius,* although not a virtuous plant, is not a germ factory, and does not spend its days and nights in the manufacture of bacteria, but accomplishes its nefarious purposes through a poisonous proteid—*abrin*—which seems to have many properties in common with the venoms of serpents. Messrs. Warden and Waddell seem to have done their work very carefully and thoroughly, and in their little brochure entitled "The Non-bacillar Nature of Abrus Poisoning," Calcutta, 1884, not only give a clear account of their methods and results, but also of the means of distinguishing the abrus roots from those of true liquorice, which they resemble.

LITHOLAPAXY IN MALE CHILDREN.

Up to the age of fourteen, unless the stone is very small, the rule has been to resort to lateral lithotomy in male children; but a new departure has been made by Surgeon-major Keegan, of Indore, who tabulates in the *Indian Medical Gazette* for May, 1884, 24 cases of rapid lithotrity in children, with a degree of success that must be considered phenomenal. 7 cases, however, would be more correctly described as "very thorough lithotrity," as a tube was not used to evacuate the fragments, while the seventeenth case, which proved fatal, must also be excluded, as not less than three operations were required, and the evacuator was used only at the second sitting.

Of the 16 cases of litholapaxy in the strict acceptation of that term, that is to say, of crushing and evacuation of the fragments at a single sitting, every one recovered. 1 child was twenty months of age, 1 two years, 1 three years, 1 four years, 5 were five years of age, 2 seven years, 3 eight years, 1 was ten years, and 1 twelve years. The smallest stone weighed seven grains and the largest two hundred and forty grains, the average weight being seventy-one grains. Of the 13 in which the composition of the calculus is noted, 10 were uric and 3 phosphatic.

The lithotrites employed corresponded to Nos. 5, 7, and 8 of the English scale and the evacuating tube was equal to No. 9 of the same gauge. The time required to complete the operation varied from four to seventy minutes, or thirty-eight minutes on an average, but Dr. Keegan states that he would not hesitate to keep the patient under chloroform for two hours if it were necessary.

The results which we have briefly outlined indicate that Dr. Keegan has opened up a new and wide field for litholapaxy, which we hope will be submitted to a fair and patient trial. The operation differs from that performed in adults only in the small size of the instruments used, which should be manipulated with a light hand and great gentleness.

Dr. William Osler, of McGill University, Montreal, is prominently and favorably mentioned in connection with the Professorship of Clinical Medicine in the University of Pennsylvania, rendered vacant by the transfer of Dr. Pepper to the Chair of Theory and Practice of Medicine. Dr. Osler is widely known as a talented scholar, a learned clinician, and a popular teacher, and his election, which it is understood will be very acceptable to the Medical Faculty, would add undoubtedly to the high reputation which the University has always enjoyed.

Dr. Osler has just been invited to deliver, next spring, the Gulstonian lectures before the Royal College of Physicians of London, of which body he was elected a Fellow in May, 1883.

THE proposed public exhibition in the eastern and western cities of lepers from California, if ever seriously contemplated, has received a check by the prohibition of the spectacle, which has been promised by the various boards of health. Whatever may be the object of the exhibitor, it is clearly certain that the subjects of the loathsome disease, together with their associates, will not be allowed the freedom of the cities, much less to display themselves in public. Should the attempt to come east be persisted in, it is more than likely that this coterie of lepers will find its movements circumscribed within the narrow limits of the quarantine station or the pest-house, until a final disposition shall be made of the case. Exclusion and isolation has long been the practice with respect to this direful malady, and it is not to be expected that it will be departed from at this day. Although the modern idea is opposed to the contagiousness of leprosy or its propagation by contact, the local authorities are justified in prohibiting so repulsive a spectacle as the exhibition of this disease would present.

SPECIAL ARTICLE.

NEW TESTS FOR ACETONE—ACETONÆMIA.

THE complex of symptoms known as diabetic coma was first described by v. Dusch in 1857, shortly afterwards by Petters, Kaulich, and Cantoni—1857 to 1864—and has been more recently studied by Kussmaul, in 1874, and Frerichs, in 1883.

The symptoms are not invariably the same, but the presence of the condition is generally inferred if sleepiness and stupor, accompanied by frequent pulse, supervene upon the other symptoms of a diabetes mellitus. These phenomena are commonly gradual in their development, but there is sometimes met a more acute form, characterized by suddenness in the appearance of the above symptoms, to which are added gastric and intestinal disturbances—epigastric pain, vomiting, sometimes of blood, purging—a peculiar noisy delirium, panting respirations, and fluctuations in the rate of pulse, which continue until coma is thoroughly established, after which the pulse remains frequent and small. A peculiar fruity odor, like that of acetone, is sometimes exhaled by the breath and the urine. These symptoms occasionally disappear, but more frequently they terminate in death.

Even the earliest observers, Petters and Kaulich, regarded the condition as an intoxication due to a substance derived from some metamorphosis of sugar, resulting in the formation of alcohol and other products of alcoholic fermentation. Having been able, with more or less certainty, to demonstrate acetone in the blood and urine, they selected this substance as the toxic agent. But even they admitted that acetone might be present in the expired air and urine in other affections, as the acute exanthemata, pneumonia, diseases of the stomach, and in diabetes without coma. Still more recently, v. Jaksch, among others, has regarded acetone as a product of normal tissue-change as well as of disease.

It will be remembered that the test heretofore in common use for acetone is *chloride of iron*, recommended by Gerhardt. This observer discovered that there was occasionally a substance in the urine of diabetics and habitual drunkards which struck a red reaction with this reagent. He inferred that this was the source of acetone, and was probably ethyl diacetate. At the same time, this substance has never been isolated, and it is considered by some to be diacetic or aceto-acetic acid. It was also soon discovered that the chloride of iron reacts with other substances more liable to be found in urine than the acetone-producing agent, so that it can no longer be considered a safe test.

Another test is Lieben's *iodoform test*. Dr. Ralfe suggests the following method of using it: About a drachm of liquor potassæ containing twenty grains of iodide of potassium is placed in a test-tube and boiled; a drachm of the suspected urine is then carefully floated on the surface. When the urine comes in contact with the hot alkaline solution, a ring of phosphates is formed, and after a few minutes, if acetone or its allies are present, the ring will become yellow and studded with yellow points of iodoform. These, in time, will sink through the ring of phosphates and be deposited at the bottom of the tube. Von Jaksch, in his extensive experiments published in *Zeitschr. für klin. Med.*, Bd. v. Heft 3, 1883, applied the test to the distillate from urines. Lieben himself furnishes a list of nineteen substances, of which two are found with certainty in urine, viz., ethyl-alcohol and lactic acid, while the others, alcohol, aldehyde, and certain fatty acids, may be present accidentally or otherwise in normal and pathological urines.

More recently **PENZOLDT** has made use of the *indigo reaction* suggested by Baeyer and Drewsen, and has published the results of an extensive series of experiments, as well as a *résumé* of the results of others, in the *Deutsches Archiv für klin. Med.*, Bd. xxxiv. Heft 2, Oct. 1883. The test is applied as follows: Heat a few crystals of nitrobenzaldehyde until dissolved, allow the solution to cool, when the aldehyde separates as a white cloud; then add the suspected fluid, and make it distinctly alkaline with dilute caustic soda. If acetone is present, there appears first a yellow, then a green color, followed by an indigo blue, in the course of ten minutes. If only traces of acetone are present, the yellow fluid is shaken with a few drops of chloroform, when a distinct blue coloration of the chloroform takes place.

By this method acetone can be easily detected in a dilution of 1 part to 2500, but for such delicacy the distillate must be used—about one cubic centimetre. The reaction is less distinct if the test is directly applied to urine, because of the coloring matters and other constituents, but acetone may be detected by the aid of chloroform, when in the proportion of 1 part to 1000. So far as known, pyroracemic acid, aldehyde, and aceto-phenon are the only substances producing the indigo reaction, and these have not as yet been found in urine.

Still another test is Legal's with *nitroprusside of sodium and caustic potash.* These reagents strike a red color which passes over into purple on the addition of acetic acid. Kreatinin strikes a similar red color, which disappears when acetic acid is added. This test may also be applied directly to urine.

Penzoldt investigated 62 pathological urines, using for test purposes the first 2 cubic centimetres of the distillate from 300 of the acidulated urine. Of the 62 cases, 22 were diabetic. Of these, the indigo reaction was present but twice without chloroform, twice with chloroform, and in 18 cases was totally absent. Of the latter, the iodoform test responded decidedly in 7, in 6 moderately, and in 7 feebly. Two were not tried by the iodoform test. It will be seen, therefore, that this reaction was marked in several instances in which the indigo reaction did not respond.

Of the fever cases, 11 were typhoid, and in only 1 of these was the reaction decided without chloroform; in 2 with the aid of chloroform, while in 8 it failed altogether.

Out of 7 cases of pneumonia, the indigo reaction was decided in 6, and absent in 1 only.

It failed altogether in all of 6 cases of phthisis.

The reaction was present in 1 out of 3 cases of measles, and in the urine from 1 case of cerebro-spinal meningitis. Of the non-febrile cases, the reaction was found in 1 of old traumatic stenosis of the œsophagus in a child. In this case there was also a transient glycosuria, and the urine responded to the chloride of iron test as well; but both this and the indigo reaction disappeared the next day.

Thus, in the total of 62 cases, the indigo test for acetone was found but 12 times distinctly, and 6 feebly; while the iodoform test responded in almost every case, failing entirely in but 2 of the 52 in which it was tried.

It is evident from the above that the tests for acetone, or the acetone-producing substances, are far from being satisfactory. For it is impossible, in the present state of our knowledge, to say positively whether the indigo or the iodoform test is the most reliable. If we accept the indigo as correct, the number of cases even of diabetes in which acetone urea is present is very few; while if we accept the iodoform test they are quite numerous. But, when we remember that Lieben himself, the discoverer of the iodoform test, gives a list of nineteen other substances which respond to his test, of which at least five may occur in urine, while only three substances besides acetone, and of which none have as yet been found in urine, respond to the indigo test, it seems that the latter must be regarded as the more reliable.

It has already been mentioned that Petters and Kaulich supposed that acetone originated in certain fermentative processes of grape sugar, taking place in the gastro-intestinal canal, and especially the stomach, although without ever having proved it. According to Kaulich, Anthon obtained in the fermentation of grape sugar a fluid which was recognized as acetone by Prof. Lerch. Penzoldt mixed solutions of sugar with yeast and various fluids, such as decomposing urine, fermented stomach contents, intestinal fluids, decomposing cheese, rotten egg, and fever urine the distillate of which gave the indigo reaction, and allowed them to remain eight days, sometimes at the ordinary temperature, and sometimes at 100° F. The distillate of these mixtures had always more or less vinous odor, and responded distinctly to the iodoform reaction, but not to the indigo; but it cannot be claimed for these experiments that they settle the question as to which is the better test.

As soon as acetone, or the acetone-producing substance, was detected in the urine it was suspected that the symptoms in diabetic coma were caused by it, and Kussmaul early sought to settle the question by experiment. In man, doses of 6 grammes a day produced no effect. In rabbits 6 cubic centimetres, administered subcutaneously in divided doses, produced symptoms of intoxication with stupor. The same results followed inhalation in the case of rabbits, but failed in the case of dogs. Whence Kussmaul concluded that the diabetic coma was the result of an acetonæmia. Against this view there has been some reaction, Frerichs and his pupils having obtained different results in their experience, whence they concluded that there was no such thing as acetonæmia.

In the article referred to, Penzoldt has attempted to reconcile the apparent incompatibility of the view that the symptoms of diabetic coma are due to acetonæmia, with the ineffectual results of experiments and the exceedingly small amount of acetone found in the secretions. He first calls attention to the fact that the very small amount of lead found in the tissues and secretions in lead-poisoning is not considered incompatible with the view that the symptoms are caused by lead, although much larger doses are needed to produce the symptoms of lead-poisoning than the quantities thus obtained. Secondly, it makes some difference whether the poison is introduced into the system interruptedly from without, as is done in experiments, or whether it is continuously produced in the organism. Thirdly, the substance in the nascent state may act more deleteriously than that which has been some time formed. Fourthly, poison continuously absorbed sometimes produces a chronic poisoning which may quite suddenly assume an acute character, as delirium tremens in chronic alcoholism. Finally, we can only judge of the action of a substance when we compare its excretion with its formation, as a poison which is excreted as fast as it is produced cannot be expected to exhibit potent effects. Acetone is rapidly excreted by the lungs, and no experiment with it is complete unless this excretion be kept in view. Accordingly, Penzoldt took three rabbits ef equal weight from the same litter. To one (A) was administered, subcutaneously, one gramme of pure acetone, and the animal placed under a small bell-glass. A second (B) was similarly placed without acetone. A third (C) received also a gramme of acetone subcutaneously, and was set free. In ten minutes A was restless, dizzy, dyspnœic; B normal; C stupid, and did not retract its hind legs when they were drawn out. In fifteen minutes A lay on its side, B showed scarcely any dyspnœa, C was dizzy and remained a short time on its side when put there. In three-quarters of an hour A was stupid and dyspnœic, with eyes half closed; B began to breathe somewhat more deeply; C was still staggering, but walking. Still later the condition of A became more intensified, while C was again normal. After two and a half hours A lay at the point of death, B was strongly dyspnœic, but still strong and on its legs. The animals were then removed from the bells and revived.

These experiments were further so modified as to permit the acetone to be inhaled, with similar results. Whence Penzoldt inferred that acetone causes in rabbits continued somnolence and stupor if its excretion by the lungs is interfered with, and that while the doses required to produce these effects cannot be considered small, they cannot, on the other hand, be regarded as excessively large. Whence we have only to suppose the temporary or permanent interference with the excretion of acetone by the lungs in diabetes to be able to account in a perfectly satisfactory manner for the phenomena of diabetic coma. Such a condition may be found in the lung complications which so constantly attend diabetes. A parallel is seen in the interference by the altered state of the uriniferous tubules of the kidney with the elimination of urea, and the consequent uræmic symptoms. At the same time, Penzoldt well says that it would be as much a mistake to ascribe all the symptoms of diabetic coma to the retention of acetone as it would be to refer uræmia in Bright's disease to the retention of urea alone. As in the latter case there may be allied substances, so in diabetes there may be substances allied to acetone which unite with it in producing the peculiar symptoms of diabetic coma.

One more point in connection with this very interesting and not unimportant subject, and bearing also on Penzoldt's experiments. It will be noted that acetone was revealed by the indigo test in six out of seven cases of pneumonia. Now in pneumonia, in which the air-vesicles are completely filled over a large portion of the lung, we can understand that the elimination of acetone is largely interfered with, much more so than in cases of phthisis. Hence, supposing it to be a normal product of tissue-change, we should expect it to accumulate in the blood and to appear in the urine; while in cases of diabetes mellitus, in which we may resonably suppose it to be found in abnormal amount, we should expect it to be found in greater quantity in the urine in those cases accompanied by a lung complication. Attention should be directed to these points by clinicians.

REVIEWS.

ELEMENTS OF PHARMACY, MATERIA MEDICA, AND THERAPEUTICS. By WILLIAM WHITLA, M.D. (G.U.I.), Physician to the Belfast Royal Hospital. With lithographs and woodcuts. Second edition. 12mo., pp. 602. London: Henry Renshaw, 1884.

THIS valuable little manual is intended to give to the student of medicine such information in a concise form as he generally has to sift out of two or three larger handbooks; and certainly the author has generously carried out his intention. The book contains all in its own branches that a busy practitioner could wish to be able to find at a moment's notice; pharmacy, materia medica, and therapeutics each receiving a proper amount of consideration. The last two hundred pages of the book are given to the discussion and description of non-officinal remedies, the administration of medicines (including a valuable chapter on prescription-writing), and pharmacopœial reactions and tests, with tables of weights and measures, an excellent index, and an index of poisons and their antidotes.

The volume is well worth a place upon the table of every practitioner of medicine, as a means of rapid reference.

THE PHYSICIAN'S COMBINED DAY-BOOK AND LEDGER. By H. T. HANKS, M.D., New York. For sale by J. H. Vail & Co., 21 Astor Place.

To no business man is a ready and at the same time infallible system of bookkeeping more important than to the physician. Compelled for the most part to keep his own accounts, and to make out his own bills, his time is generally so much occupied that it is impossible and unprofitable for him to follow an elaborate system. At the same time, it is well known that physicians lose much money because of their constant failure to note visits and other services.

The day-book and ledger of Dr. Hanks seems calculated to meet all the requirements of our profession. The bookkeeping is compact, the account is easily followed, there is no transfer or extra posting, and the book is adapted for city or country practice, and to many or few patients. A little careful study of the method shows it to be simple and easily understood, and we believe physicians will find it useful.

SOCIETY PROCEEDINGS.

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, May 5, 1884.

WILLIAM HUNT, M.D., IN THE CHAIR.

DR. FERDINAND H. GROSS exhibited a

TUMOR OF THE MALE MAMMARY GLAND,

which he had removed from a male patient at the German Hospital. The man was fifty-eight years of age, a German, who, in his own country, had followed the occupation of a tailor, but in this country had become a confectioner. He presented a pale, cachectic appearance, but was not markedly emaciated. From his own account, he descends from a stock remarkable for longevity. The patient knows of no cancerous disease or other tumors to have occurred in any of the members of his family. There appears, therefore, to be no hereditary taint associated with his disease. About two and a half years ago he noticed, for the first time, several small lumps or swellings beneath the skin on different parts of the right side of the chest. They were scattered over an area beyond the region of the mammary gland, would remain for a time, and then disappear. About four months ago he was taken ill, and confined to his bed for several weeks. His physician told him that his liver and kidneys were affected. The skin was jaundiced, and his urine was very high colored. As he was recovering from these troubles, between two and three months ago, he noticed a hardened, round tumor, about an inch in diameter, in the region of the right nipple. About a week later it began to ulcerate at a point resembling a small pimple. Previously he had not noticed an involvement of the skin. The ulcer has extended to the size of a dime. The growth was not continuously painful, but occasionally darting pains were experienced in this region, and these were at times quite severe. The lymphatic glands in the neighborhood, as in the axilla, are not enlarged or painful.

Dr. Gross believed the neoplasm to be scirrhous in character; but, as it had been removed only a few hours before the meeting, a minute examination had not been possible.

The case was specially interesting as occurring in the male, and a committee, consisting of Drs. F. H. Gross, J. M. Barton, and S. W. Gross, was appointed to make a microscopic examination, and report at a future meeting.

Dr. Nancrede asked if any of the Fellows had had any experience with the comparatively new method called deep canalization, whereby immediate union is obtained without the use of drainage-tubes, and not more than one dressing. There are two methods of performing this. He had tried one, and it was very satisfactory, except that the relaxation-suture gave way, with consequent strangulation of the middle part of the wound.

The method of performing this operation is to make a number of oval holes in the skin (about four), two-thirds of a centimetre in their long diameter, at the lower portion of the posterior axillary fold, then introduce a relaxation-suture to take off the strain. The edges were coaptated by a continuous catgut suture. In his case, this suture, which was of catgut, gave way. There was a normal temperature in this case until the eighth day, when a little sloughing occurred. He believes that if he had used a metal suture only one dressing would have been required. The wound was dressed with the corrosive chloride solution. Gerster reports three cases, one of which was well on the fourteenth day, another about the thirteenth or fourteenth, and a third on the twenty-first day. These cases required only one dressing beside the primary dressing. Where the skin cannot be brought together, it has been suggested to stitch the skin to the anterior and posterior axillary folds, so as to leave an open surface for drainage.

Dr. Barton said that the method suggested by Dr. Allis is valuable in cases like this. He takes a broad strip of plaster and runs it to the very edge of the incision, and the same on the opposite side. He then carries the stitches through both the skin and the plaster. This plan is valuable where considerable strain has to be put on the sutures.

Dr. Packard said that it might seem superfluous to mention any other method, but the one to which he desired to call attention is entirely analogous to the old dry suture, There is a form of plaster now made which enables us to use the dry suture to greater advantage than formerly. This is the porous plaster. It is not irritating to sound skin. He had used it to great advantage by applying a piece of plaster to each side of the wound, and instead of passing the sutures through the skin and the plaster, he simply laces them through the holes of the plaster, This is sufficient to bring the edges of the skin together, and prevents the irritation of the deeper parts which follows the introduction of sutures. If desired, the lacing can be readily undone and the wound dressed. The dressing may be placed below the sutures, if it is wished, or it may be placed above. This plan has been very efficient in his hands.

There is another point to which it is, perhaps, well to refer, and that is in regard to the removal of plasters, and especially of large ones. It is not necessary to remove the whole strip, but simply the portion on each side of the wound should be cut away and the plaster spliced with a new piece.

In regard to applying the porous plaster to irregular parts, the plaster may be cut in strips and the ends of these strips united according to the nature of the part. There are many cases in which it is desirable to avoid sutures, and in such cases this plan may often be adopted.

The skin, he thinks, stretches to a greater extent than is usually supposed. He mentioned a case at the meeting of the American Surgical Association, at Washington, that of a man who was caught in machinery and had a comminuted fracture of the forearm, and a compound comminuted fracture of the arm for about three-fourths of its length. The skin was torn to such an extent that there was no possibility of covering the stump. The skin was stripped entirely from the arm, leaving the muscles bare. This man was brought into the hospital in the evening. He saw him the following day; he was still in good condition. He decided that the proper thing to do was to relieve him of the arm. He made an ordinary double-flap shoulder-joint amputation, through the muscles alone. He brought the skin together as near as possible from the front and back with two long shawl-pins, and over these he made a figure-of-8, with a piece of narrow bandage, as he feared the tension of a ligature. The wound was dressed with carbolized oil, in the ordinary way, The man made an uninterrupted recovery. At one time he was greatly prostrated with diarrhœa, and lost flesh, but he recovered from this. He saw him two weeks ago, and the only point that is liable to give trouble is where the cicatrix passes over the point of the acromion and clavicle. Here there seems to be some tension, but it does not give the patient any inconvenience.

Dr. Pancoast, as a dressing for harelip, uses a strip of adhesive plaster long enough to go around the skull and to roll up at the ends into little pads. By this means the projection of the nose is surmounted. This forms a useful way of supporting the cheeks. He also uses, in addition, to approximate the margins of the skin, fine black silk sutures.

Dr. Nancrede said that in removing the mammary gland he uses a free incision, and one that makes but little angle. He then introduces sutures, five inches from the edge of the wound, using the buttons introduced by Cheyne. With these buttons the greater part of a large incision can be coaptated, and union by what is called first intention may be secured. He has also used the button-suture as a relaxation-suture. The method of Dr. Packard is exceedingly ingenious, and he will try the long strips when he has an opportunity. The large pieces would, he thinks, interfere with the stretching of the skin.

Dr. J. Ewing Mears said that the essential feature of the modern treatment of wounds is to secure, if possible, such thorough coaptation, approximation, and relaxation of the edges of a wound that primary union may take place. For this purpose three forms of suture are used: 1. The suture of cöaptation, which is to bring the edges together. 2. The suture of approximation, which is passed a little further from the edges than the first suture. 3. The suture of relaxation, which is introduced at a still further distance from the edges of the wound. In order properly to apply this suture, the buttons referred to by Dr. Nancrede should be employed. With these three forms of suture there is no difficulty, in most cases, in bringing the parts together, and the edges can be approximated without the danger of causing tension, which develops irritation. That is an important feature of the modern method of wound treatment. He thought that any one who has studied the antiseptic method of treating wounds will find that, as a rule, plasters are dispensed with. Dependence is placed on these sutures. He thought, therefore, that if we adopted the modern antiseptic methods of treating wounds, we should give up plasters largely. As to Dr. Packard's suggestion in regard to the removal simply of that portion of plaster which covers the wound, this plan was described by the late Mr. Callender at one of the New York college clinics, during his visit to this country.

Dr. Packard said that he certainly did not intend to claim any originality. He did not know whether it was described by Mr. Callender or not. It seemed a suggestion which would naturally occur to any one who pays attention to diminishing the suffering of the patient.

It seemed to him that we could scarcely dispense with plasters. He conceded that great improvements have been made in the sutures. One thing that we do now is to use deep sutures and use relaxation-sutures. He thought the button-suture a great improvement. He was a little surprised to hear that the great point in the modern treatment of wounds is to secure approximation. He should say that the other tendency is the one which is now predominant: that large incisions may be made and the wound be allowed to heal by granulation. Tumors are now removed, which, twenty years ago, the best surgeons would have left alone, because they had not learned that wounds will granulate from the bottom.

Four years ago he removed a tumor from a patient; she made a good recovery, but this winter there was a return of the disease beneath the cicatrix. There was a large mass near the middle line, the removal of which produced a wound which it was impossible to close. It was dressed with carbolized oil. After a time it was sprinkled with borax and then astringent applications were used. The wound is now no larger than a ten-cent piece. We are coming to the idea that we can allow wounds to close up by granulation under antiseptic and astringent dressings.

CORRESPONDENCE.

CIDER VINEGAR IN THE TREATMENT OF DIARRHŒA AND DYSENTERIC SYMPTOMS.

To the Editor of The Medical News.

Sir: The apprehension of the danger threatened by the Asiatic cholera, being already accompanied by an amount of diarrhœa and dysentery in most communities, it seems incumbent again to call attention to the internal administration of cider-vinegar as being followed by such remarkably happy effects upon such maladies.[1]

It has recently been said that the cholera microbes are destroyed by acids, and that alkalies favor their generation. Pure lemon-juice is reported to have been recommended abroad for diarrhœa, and the general opinion that the fermented acids from fruit juices, are dangerous in such diseases, seems about to be proved erroneous, or at least found liable to very pronounced exceptions.

In these affections when the contraction of the sphincter ani muscles demands an effort on the part of the will, merely bringing vinegar in contact with the tongue inaugurates a reflex action upon the nervous system and probably the lower portion of the spinal cord, that almost invariably relieves the patient. The cramps, tenesmus, and chills that are so distressing, are quickly combated by a draught of the remedy and succeeded by a glow of the most natural and comforting character.

Vinegar swallowed in doses of a teaspoonful by young children, and a wineglassful by adults, may be repeated several times if the pain returns or the evacuations of the bowels recur, until generally after the third, but most frequently after the first administration, there seems to result a complete cure and this too without any necessity in ordinary cases for positive restrictions of motion or diet.

This has been so safe, rapid and complete a cure in both recent and chronic cases, that to enumerate them here, would seem less likely to convince doubters of its efficacy, than to cause them to suspect it as savoring of the sentiments of reports of the advertised nostrums.

A food of the class of condiments, so universally used, being mentioned by the early biblical writers and known as a part of the diet of millions of soldiers from the time of the Romans to the present, would seem to encourage the conscientious study of articles of daily and familiar use, for the discovery of new capabilities. Doubtless there are many simple and efficient remedies at our command, that have been overlooked through their simplicity and innocuousness.

The aphorism of Sydenham, that "the nearer a medicine approaches a food the more efficient it becomes"—excites the hope that it is pardonable to attempt the persuasion of others to test this plain acquaintance and thus see if it is not worthy of greater respect in the pharmacopœia.

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[1] See American edition of Coleman's Dental Surgery and Pathology, p. 32.

Earnestly desiring that the mention of the experience of the writer may aid in causing others to essay it and that thus the benefits of this remedy may be fully reaped by all through its most wide publication in your journal,

I am very sincerely yours,
Thomas C. Stellwagen, M.D.

Philadelphia, 1627 Chestnut St.,
August 1, 1884.

P. S.—Since the above was in print, I have received, through the kindness of Prof. Alfred Stillé, M.D., an extract from the *Journ. de Méd. et de Chirurg. prat.*, viii. 432, which speaks of the employment of very sour (très vinaigrée) lemonade, or pure vinegar, in sixteen cases of what are called epidemic cholera, with twelve recoveries.

This article further states, "All the symptoms of Asiatic cholera were found united in these patients with the exception of the cyanosis, which was wanting in the most of them." Can the prompt use of the vinegar have prevented this almost fatal although crucial symptom?

NEWS ITEMS.

Cholera Precautions in the United States.—The Massachusetts and Connecticut State Boards of Health last week issued circulars to the public containing suggestions relative to epidemic cholera, and urging the importance of public and private sanitation and disinfection.

The Government is establishing a quarantine station at or near the "Delaware Breakwater" for the purpose of preventing the introduction of infectious diseases by foreign vessels which anchor at the Breakwater before proceeding up the Delaware River. This action is taken at the request of the Wilmington Board of Health.

The Paris Academy of Medicine on Cholera Quarantine.—At its meeting on July 15, the Académie de Médecine of Paris formally adopted the following propositions:

1. Land quarantine, whatever be the form under which it is established, is impracticable in France.
2. The disinfection procedures carried out on travellers and their baggage in the railway stations are inefficacious and illusory.
3. Medical posts should be established in the large railway stations, in order to give assistance to the sick, and to isolate them from the other travellers.
4. The efficacious measures of protection are those which every person should take for himself and his house. It is the duty of municipalities to see that the rules relating to the isolation of the sick, the disinfection of linen, clothing, rooms, etc., are rigorously carried out; and that the precautions of private and general hygiene are strictly followed.—*Gaz. Méd. de Paris*, July 26, 1884.

Preparing for Cholera in Paris.—A correspondent of *The Lancet* writes from Paris, under date of July 22d, that the cholera more than ever engrosses public thought, and in medical circles is the principal, if not the only, subject of discussion. Nor is this solely a matter of conversation. Two notable measures have been adopted. Dr. Dujardin-Beaumetz, Member of the Council of Hygiene and Salubrity for the Department of the Seine, is organizing throughout Paris a sanitary service. Medical officers of health are now being appointed for every district. Orders are given that any illness of a choleraic nature must be reported at once to the nearest police station. The prefect of police is then communicated with by telegraph, and the medical officer is ordered to superintend personally the disinfection of the house where the case is reported. But the question arises as to what is meant by the term disinfection, and who is to do the work which these newly created medical officers are called upon to superintend. So far either policemen or firemen have been employed; and, on the whole, a distinct preference is shown for the latter. They are brave, active, and accustomed to constant alarms; on the other hand, they are young men, very susceptible to contract diseases, and may possibly infect the barracks in which they live. The term disinfection is also employed in a very vague manner. It generally means a good scouring, and but for the plentiful use of carbolic acid or chloride of lime would be little better than an English "spring cleaning."

While, however, Dr. Dujardin-Beaumetz is organizing the machinery for the disinfection of houses, M. Pasteur is conducting a series of experiments for the purpose of ascertaining what may be considered effective disinfection. In conjunction with several other medical men, some civil engineers, and the prefect of police, M. Pasteur has been every morning to the Hôpital Cochin, where experiments were organized in the following manner. M. Pasteur selected from his laboratory the microbes of chicken cholera, of anthrax, lymph of smallpox (both moist and dry), and other similar subjects. These specimens were divided into three equal parts, and placed in three different small rooms at the hospital. In one room common sulphur was burnt; in the second liquid sulphurous acid was injected through the door by M. Pictel; and nothing whatever was done to the third room. After twenty-four hours the microbes were examined, and calves were vaccinated with the smallpox lymph. The result so far goes to show that the sulphurous acid, whether derived from the fumes of burning sulphur or from M. Pictel's siphon bottles containing the liquid form, did not disinfect at all.

M. Pasteur showed me some cultures, notably those of splenic fever, which had developed themselves with great activity in spite of twenty-four hours' sojourn in the midst of sulphurous acid gas. At the same time, I must state that the experiments were in no wise conclusive. The amount of sulphur employed was small —750 grammes to 80 cubic metres,—and now the experiments are being repeated with a far stronger proportion of sulphurous acid; and if the liquid form is employed, there will be no difficulty in attaining the required strength. But this is expensive. At present five francs a litre is the price demanded, though probably this will be reduced to two or three francs. Yet even at this price the disinfection of a room will cost from ten to twenty shillings, according to its size.

The Hôpital Bichat and the Hôpital Broussais will be devoted especially to the treatment of cholera cases should the epidemic break out in Paris.

CHOLERA PRECAUTIONS IN GERMANY.—The following regulations have been promulgated by the Berlin Board of Health:

Especial attention should be paid to the general health of the people, in order to prevent a disposition to cholera from disorders of the digestive organs. Care should be taken that persons thus affected should have the necessary medical attention as soon as possible.

In places affected by cholera, the following rules are to be observed: The first cholera patients are to be isolated in their homes, or else carried to a cholera hospital. The latter should be done when the surroundings of the patient are unfavorable for treatment at home. Public carriages should not be used to transport cholera patients. If one has been so used, it must be disinfected before being again used for any purpose. The bodies of persons dead of cholera must be removed from the house as soon as possible; and a special place for their reception should be provided for these corpses. Towns which have no special place for their burial, should provide one.

Rules for Disinfection.—1. The discharges from cholera patients must be placed, as soon as possible, in vessels containing 1 part of pure carbolic acid to 18 parts of water. The quantity of the disinfecting material should be at least one-fifth of the material to be disinfected.

2. Body- and bed-linen soiled with cholera discharges should be immediately placed in this solution, and left therein for forty-eight hours, and then washed in water.

3. Clothing, beds, and other articles which cannot be treated in this manner, should be disinfected by steam.

4. Furniture and floors soiled by the discharges should be cleansed with dry rags, which must then be burned or placed in the carbolic solution.

5. All persons who come in contact with cholera patients or their effects, or are soiled by their discharges, should thoroughly disinfect and wash their hands with the carbolic solution before going into the presence of other persons or eating anything.

6. In carrying out disinfection by means of steam, only such apparatus is necessary as will carry a spray of steam through the room to be disinfected and raise the temperature in the room to at least 212° Fahr. This can be regulated by a thermometer. The time necessary for disinfecting different things may be put as: For clothing, not less than one hour; and for articles difficult to penetrate, not less than two hours. Of course, the time is not reckoned until the temperature reaches 212°. The steam is better developed in a steam-kettle, and carried into the room to be disinfected through a pipe. Instead of a steam-kettle, a very large boiler may be used; and the articles may be placed in it and boiled.

Where such measures cannot be employed, as with bolsters, feather-beds, mattresses. etc., a continuous airing for six days in a warm, dry place, protected from the rain, may be employed. Sleeping-rooms in which cholera patients have lain, are to be cleaned, and aired for six days, and then thoroughly dried with heat.

7. Articles of little value should be burned when soiled, rather than disinfected.—*Berlin. klin. Wochensch.*, July 21, 1884.

CHOLERA PRECAUTIONS ON THE ITALIAN FRONTIER.—Six thousand persons are reported to be detained in the various lazarettos on the Italian frontier and along the coast.

PRECAUTIONS ELSEWHERE.—The ports of Brazil have been closed to vessels from Marseilles, Toulon, Spezzia, and all ports at which cholera prevails. The authorities at Madeira have refused to allow passengers and mail on a steamer which has arrived there from England to land.

AN ENGLISH CHOLERA COMMISSION.—The English Government has directed DR. KLEIN and DR. HENEAGE GIBBES to proceed forthwith to India to pursue a scientific inquiry into the nature of cholera. It is understood that these gentlemen will act in conjunction with the Commission nominated a few weeks ago by the Indian Government for the same object.—*Lancet*, July 26, 1884.

YELLOW FEVER PRECAUTIONS.—Inspectors have been appointed to accompany railroad trains leaving Guaymas, Mexico, for the United States, and prevent the passage of persons suffering with yellow fever from entering at El Paso, or Nogales. Sanitary Inspector Ross reports several cases having been put off at Hermosillo, and that there are six cases in the railroad section-house there, employés of the railroad.

The United States Consul at Mazatlan, Mexico, reports the existence of yellow fever at that place, and states that clean bills of health however are furnished vessels by the Board of Health of Mazatlan.

THE NATIONAL BOARD OF HEALTH.—The National Board of Health held its annual meeting on July 30th, and elected officers for the ensuing year as follows: President, Dr. James L. Cabell, of Virginia; Vice-President, Dr. Stephen Smith, of New York; Secretary, George E. Waring, Jr., of Rhode Island; additional members of the Executive Committee: Thomas Simons, Department of Justice; Dr. Charles Smart, U. S. A., and Dr. T. S. Verdi, of Washington. The following resolution was adopted:

Resolved, That in view of the possible invasion of the country by cholera, and of the existence of epidemics of other diseases, and in view of the duty imposed upon the Board by law "to obtain information on all matters affecting the public health," the Executive Committee is directed to put on duty such members of the Board as in its judgment may be necessary.

At a meeting of the Executive Committee the following was passed:

Resolved, That the members of the Board be placed on duty for the investigation of all matters which, in their judgment, have direct bearing on the question of cholera as a present menace to the public health, and epidemic of other diseases existing in the country. Congress having failed to make appropriation for the purpose, it is understood that such duty is to be performed without compensation.

THE COPENHAGEN CONGRESS.—The *British Medical Journal* announces that it is officially informed that the International Medical Congress at Copenhagen will be held as originally announced, and will not be postponed on account of the appearance of cholera, as has been suggested.

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ORIGINAL LECTURES.

A COURSE OF LECTURES ON DERMATOLOGY.

Delivered at the University of Pennsylvania during the Session of 1883–1884.

BY LOUIS A. DUHRING, M.D.,
PROFESSOR OF DERMATOLOGY IN THE UNIVERSITY.

(Reported by Henry Wile, M.D.)

LECTURE VI.

ATROPHIES; ALBINISM; VITILIGO; CANITIES; ATROPHIA CUTIS; STRIÆ ET MACULÆ ATROPHICÆ; ALOPECIA; ALOPECIA AREATA; NEOPLASMATA; KELOID; MOLLUSCUM FIBROSUM; XANTHOMA; RHINOSCLEROMA; LUPUS ERYTHEMATOSUS; LUPUS VULGARIS; SCROFULODERMA.

ATROPHIES are characterized by diminution or degeneration of the elements of the skin. The process may be a simple atrophy, as of pigment in canities, or an atrophy and a hypertrophy combined, as in vitiligo, or, still further, a degenerative atrophy of the skin and subcutaneous connective tissue, as in morphœa. The pigment, skin proper, subcutaneous connective tissue, hair and nail, may all suffer from atrophy.

ALBINISM is a congenital absence of pigment, either partial or universal, of the skin, hair, iris and choroid coat The hair is usually white or yellowish and silky. The persons thus affected are called *Albinos*. The condition occurs among all races, of the north as well as of the south, and constitutes a curious anomaly. Partial albinism sometimes occurs especially in negroes, who are spoken of as "pied" or "piebald." Interesting cases of albinism were those known as the Cape May Albinos, where the parents were negroes having six children, three of whom were Albinos and three were black.

VITILIGO is an acquired disease, coming on at any age after birth, and is characterized by defined, rounded, ovoid or irregularly shaped patches of whitened skin surrounded by a variable amount of yellowish or brownish pigmentation. It usually begins in one or several places, which are pinkish or whitish, and surrounded by a brownish areola. These spots vary in size from a coin to the palm of the hand, and have a tendency to coalesce, forming larger patches. It is an atrophy of pigment surrounded by a hypertrophy of pigment, or a diminution of pigment surrounded by an excessive amount. The regions most commonly affected are the face, backs of the hands, and the trunk. When marked on the trunk it is not so apt to attack the hands or face. The course is, as a rule, slow, extending over years. The disfigurement is marked if occurring about the face or hands. There are no subjective symptoms, nor is there any disturbance of the general health. The disease is under the influence of the nervous system.

It is to be distinguished from chloasma in that the latter affection consists of yellowish or brownish spots without whiteness; also from tinea versicolor, in which there is more or less furfuraceous scaling, the scales containing a fungus. In the way of treatment, much can sometimes be done. Arsenic used judiciously, in small doses, for a period of months or years, is in some cases followed by marked improvement. Local treatment is of no avail. The prognosis should always be guarded, as the disease may last a lifetime.

CANITIES, or graying of the hair, may be either premature or due to old age. It may be partial, occurring in streaks or locks, or it may be universal. The color is variable, sometimes being one shade, sometimes two shades, as in Mr. Wilson's case, in which the hairs in their entire length presented alternate brown and white markings, the latter marking being supposed to be due to the presence of air globules. The hair may also change color, as a yellowish shade may turn into a black, or a brown into a red. Changes may also occur after severe illness, as after scarlet fever, brown hair being replaced by white. As a rule, time is required for alteration of color, but the question has often arisen as to whether a change could take place suddenly, and this question may be answered in the affirmative. Under nervous shock, or strong emotional influence, sudden graying of the hair may take place. Some authorities, as Wilson, explain the phenomenon by the presence of air bubbles in the hairs.

ATROPHIA CUTIS, or atrophy of the skin proper, is by no means common. In simple atrophy, where there is a diminution of the cutaneous tissue-elements, the skin presents a thin, dry, shrivelled appearance, and in degenerative atrophy, where there is structural change without loss of substance, the skin is somewhat hardened, and presents a waxy, fatty appearance. It may occur in streaks, spots or patches, or it may follow other processes, as lupus erythematosus, syphilis, seborrhœa and tinea favosa. *Glossy skin* is a condition due to impaired nutrition occurring about the extremities, especially the fingers, consisting of pinkish, reddish, smooth, shining lesions, like chilblains. *General idiopathic atrophy* comprises such cases as have been described by Wilson, Hebra, Hutchinson, Taylor and others, and known under the name of "xeroderma of Hebra," or "parchment skin." The condition is allied to morphœa, and the lesions exhibit a tendency to develop into epithelioma. They are disseminated, and consist first of a congeries of bloodvessels, accompanied by pin-head to split-pea-sized telangiectases and excessive pigmentation.

STRIÆ ET MACULÆ ATROPHICÆ may be either idiopathic or symptomatic. The former manifest themselves as lines, one or two inches in length, or as pinhead to finger-nail-sized, round or oval spots, presenting a smooth, shining surface. These are seen most frequently about the pelvis and on the flexor surfaces. The latter consist of those atrophic lesions brought about by overdistention of the skin, as seen in pregnancy and ascites.

ALOPECIA is a term used to express more or less complete, partial or universal baldness, irrespective of cause. The varieties are as follows: In *congenital alopecia* it may be partial or entire, usually the former. In one case, reported by Schede, excised portions of the scalp failed to reveal under the microscope the presence of hair-bulbs. *Senile alopecia*, or baldness of old age, is characterized by the permanent loss of the hair, accompanied by atrophy of the skin. The affection begins about the crown of the head, the hairs, often first turning gray, become thin, dry, and finally fall out. Men are more frequently affected than women. *Idiopathic premature alopecia* begins, as a rule, between the ages of twenty-five and forty, and may run a slow or rapid course. The hairs fall out without apparent cause, and are at first replaced by finer hairs, which in turn are shed. It also usually begins about the vertex and extends forward. It is very common, and is found more frequently in males. *Symptomatic premature alopecia* is a form of baldness which may accompany or follow certain diseases, and may be temporary or permanent. Such a condition may occur after nervous shock, severe fevers, protracted seborrhœa, lupus erythematosus, certain parasitic diseases of the scalp, leprosy and syphilis. *Syphilitic alopecia* is generally one of the early manifestations of syphilis, and occurs before the syphilodermata, or later, as a result of ulceration. As one of the early symptoms, it gives the patient much concern, as it is sometimes copious, involving even the eyebrows and eyelashes. It lasts usually but a few months.

ALOPECIA AREATA is an atrophic disease of the hairy system, appearing usually in the form of whitish, smooth, bald patches, of varying size and shape. It may come on suddenly or gradually, generally first invading the parietal or occipital regions of the scalp; it may also affect other hairy parts of the body. The patches are usually rounded, vary in size from a coin to the palm of the hand, are smooth and polished, and are whitish in color. Occasionally there are a few short, atrophied hairs to be found, but as a rule the hair-follicles are shrunken, closed, the skin becoming thin, similar to that of an old man. The course of the disease, whether left to itself or under treatment, is variable, months or years elapsing before complete recovery sets in. The latter may never occur. The prognosis varies according to the history and duration of the disease and the age of the patient. The younger the individual, the more favorable. In young persons, complete restoration of the hair is the rule, the patches first being covered with lanugo, and later by the normal growth. In some cases recovery sets in spontaneously.

The causes are not well understood. It is not of parasitic origin. It is attributed to nerve disorder, producing a temporary arrest of nutrition. The disease may be regarded as a tropho-neurosis. Microscopic examination of the hairs reveals atrophy of the bulbs. It may be confounded with tinea tonsurans, and cases have been recorded in which the two diseases existed together. But the blanched, atrophied condition and smoothness of the patch, and the absence of fungus in the former, are sufficient to give the diagnosis.

As regards the treatment, locally, a number of remedies exert a good influence; for example, sulphur, some of the mercurial salts, tar, oil of cade, and carbolic acid. The following prescription may also be used, full strength or diluted, as a stimulating lotion:

℞.—Tr. cantharidis,
Tr. capsici, ... āā f℥jss.
Ol. ricini, ... fʒij.
Spts. lavandulæ,
Spts. rosmarini, ... āā f℥ss.—M.
Sig. Apply daily.

Ointments of tar and of sulphur are, perhaps, our most valuable remedies. Blistering is recommended by some, also turpentine, and mercurials, as ammoniated mercury, forty to one hundred grains to the ounce. As regards internal treatment in alopecia areata, arsenic is the best remedy, and, given in tonic doses for months, will in some cases be followed by good results. In this disease, local measures, as a rule, exert no influence until after the hairs begin to grow.

ATROPHY OF THE HAIR takes place as a result of certain diseases of the scalp, or certain constitutional diseases, as syphilis. The hairs become fragile and dry, and sometimes have a tendency to split in the follicle, producing irritation. It is due to improper nutrition. *Trichorexis nodosa* is another peculiar condition of the hair, in which there is a series of small, spindle-shaped, bulbous swellings along the shaft, looking not unlike nits. The free end of the hair is split up, and presents a brush-like appearance. *Piedra*, also a nodosed condition of the hair, occurring in Colombia, is said to be due to a fungus.

ATROPHY OF THE NAIL is as a rule acquired, and is characterized by a dry, brittle, "worm-eaten" condition. It may be due to syphilis, eczema or psoriasis; also to the fungus of tinea favosa and of tinea tonsurans. For simple atrophy of the nail, and that due to eczema and psoriasis, arsenic is the best remedy.

NEOPLASMATA, new growths, comprise a large and important class of diseases. They are composed of connective tissue, as xanthoma and molluscum fibrosum, or of a cellular deposit, as in lupus and syphilis. New growths may be either benign, as xanthoma, or malignant, as cancer, or intermediate, as lupus. They are, as a rule, not painful, and run a chronic course, lasting for years.

KELOID is a connective-tissue new growth, consisting of one or more irregularly shaped patches or tumors, variously sized, reddish, smooth, elevated, firm and elastic. The lesions may be the size of a pea, a bean, or a finger; in shape elongate or ovoidal, firmly seated in the skin, and presenting a smooth, glossy surface, of pinkish, more or less variegated color. The form is generally peculiar, consisting of a body with diverging processes, not unlike a spider or a crab. Its growth is slow, occupying years, and the tumor is seldom painful except on pressure. Cases in which the lesions develop after burns are sometimes exceedingly painful. Respecting a cause, keloid may be divided into two varieties—spontaneous, in which it develops without any apparent cause, and cicatricial, where it develops after injuries, as burns, cuts, and severe flogging. It is also noticeably more common in the colored race.

Pathologically, the lesion is situated in the corium, and consists of dense fibrous tissue made up of closely packed fibres like cicatricial tissue. According to some, the change begins in the walls of the bloodvessels. The diagnosis offers no difficulty.

Treatment is, as a rule, unsatisfactory. The more the knife is used the more the disease spreads; it almost invariably recurs after operation. According to Vidal, repeated scarification is useful. Wilson recommends diachylon plaster, and in some cases it gives fair results. The growth sometimes disappears spontaneously.

Molluscum fibrosum is a connective-tissue new growth, sessile or pedunculated, soft or firm, rounded and variable as to size. It is single or multiple, the lesions being usually numerous, about the size of a pea, and grow upon the general surface, especially the trunk. They may begin at any age, grow slowly, and, having attained the size of a pea or cherry, remain stationary. There is no pain or annoyance attending their development. The cause is unknown. The disease is, however, apt to appear in individuals of a sluggish temperament, in those who are dull, and exhibit little physical or mental energy. The tumors consist of a whitish or yellowish fibrous tissue, being denser and compacter about the base. They cannot be enucleated, being firmly bound down to the subcutaneous connective tissue. The disease takes its origin in the connective tissue surrounding the fat globules. It is to be distinguished from molluscum epitheliale and sebaceous tumor, also from lipoma. The treatment, when the lesions are not too numerous, consists of extirpation with the knife, ligature or galvano-cautery.

Xanthoma is also a connective-tissue new growth, which has of late excited attention, especially in England, where the disease seems to be most frequently met with. It is characterized by yellowish, circumscribed, irregularly shaped, soft, flat or raised patches or tubercles. There are two varieties, which clinically are entirely distinct,—xanthoma planum and xanthoma tuberosum. The lesions are in the corium, and the patches have the look in the flat variety of being inlaid, resembling pieces of chamois-skin laid in the skin. They are usually met with about the eyelids, in the form of narrow semicircular patches, sharply defined, of a pale or dark buff or lemon color, and may extend from one canthus to the other. They give rise to no pain or inconvenience, but may give the individual a grotesque appearance.

The tubercular form consists of pin-head, pea-sized or larger tubercles, usually of a golden-yellow color, occurring on the neck, trunk and extremities. It is a disease usually of middle life, but is exceptionally met with in children. The lesions may be single or multiple. The multiple form (xanthoma multiplex) is rare. They develop as a rule gradually and pursue a slow course.

The causes are not known. It has been supposed that the disease has some connection with hepatic disorders, and this is sometimes the case in the multiple variety; xanthoma palpebrarum, on the other hand, is seldom connected with jaundice. The disease is more common in women than in men. Pathologically, the growth consists of fattily degenerated connective tissue. The treatment is excision, which in suitable cases is usually satisfactory. Spontaneous involution occasionally occurs.

Rhinoscleroma is a rare disease, chiefly encountered in Germany, consisting of a circumscribed, irregularly shaped, flattened, tubercular, remarkably hard and dense, cellular new growth, having its seat about the nose. It is unknown in this country, no typical case being as yet reported.

Lupus erythematosus is a cellular new growth, characterized by variously sized, rounded or irregularly shaped, more or less inflammatory, scaly patches, having its seat usually about the face. The disease generally begins as a small, insignificant, reddish patch, with slightly adherent scales, increasing gradually in size from week to week or month to month. Later, new lesions spring up. They are pale or deep red or of a violaceous tint, having usually a well-defined border, slightly elevated, and covered with yellowish or grayish, sometimes sebaceous, scales. The latter are attached to the openings of the sebaceous glands, which are distended by plugs of sebaceous matter. Sometimes the patches grow rapidly with inflammatory symptoms. There is also, at times, heat and itching. One, two or more patches are usually present, and the region generally attacked is the face, especially the nose and cheeks, the lesions often assuming a butterfly form. The affection runs a chronic course, it may be for years, spreading, and in some instances disappearing from time to time, leaving soft, whitish, superficial, more or less punctate, atrophic scars. It is by no means a rare disease, and is rather more frequently encountered in women than in men. It seldom appears before adult age, and in this respect differs from lupus vulgaris. It may develop from a simple congestive seborrhœa; in other cases the causes are obscure. It is a combined process, consisting of an inflammation and of a new growth. It often begins in the sebaceous glands, also sometimes about the sweat glands.

Microscopical examination of recent lesions reveals aggregations of small round-cells around the follicles and glands, together with other inflammatory changes. Later stages show retrograde changes in the tissues which lead to absorption and atrophy. If the retrograde metamorphosis takes place early, no cicatricial tissue is found, and no trace of the lesions remains.

The diagnosis is, as a rule, easy; the regions affected, the sharply defined patch with border, the adherent, yellowish scales, and the involvement of the sebaceous glands, are all important differential points, and serve to distinguish it from lupus vulgaris, syphilis, psoriasis and seborrhœa. The disease is generally obstinate, but in the inflammatory types should not be treated too actively, as with caustic remedies, at first. Internally, iodine is valuable in some cases in the form of iodized starch, as recommended by McCall Anderson, consisting of twenty-four grains of iodine, triturated with water, and one ounce of starch gradually added. This is given in drachm doses. Iodide of potassium, cod-liver oil, and arsenic are also of value in some cases, especially when there is impaired nutrition. External treatment, however, usually gives the best results. In mild cases, sapo viridis, used in the form of plaster, or in combination, two parts to one of alcohol, used as a lotion, is an efficient agent. When there is seborrhœa, sulphur ointment may be used. In the superficial variety, the following is valuable:

℞.—Zinci sulphatis,
Potassii sulphureti, . . . āā ʒjss.
Aquæ rosæ, ... f℥iv.—M.

Sig.—Shake. Apply several times a day, five or fifteen minutes at a time.

Mercurials, carbolic acid, and tar are also of value. Tincture of iodine and glycerine, as recommended by Hebra, are at times useful. The following mixture will sometimes prove of service:

℞.—Ol. cadini,
Alcoholis,
Saponis viridis, ... āā ℥ss.—M.
Sig.—To be rubbed in morning and evening.

Caustics should be used with caution. A useful method of treatment is that by scarification, multiple or linear, whether in the deep-seated or superficial variety. The prognosis should always be guarded.

LUPUS VULGARIS is a cellular new growth, characterized by variously sized and shaped patches of a reddish or brownish color, made up of macules, papules or tubercles, the disease usually terminating in ulceration and cicatrices. It generally begins in the form of small, grouped or disseminated points in the skin, of a yellowish or brownish color. These coalesce, forming patches of various sizes. They may also develop into papules and tubercles, the condition being then known as *lupus tuberculosus*, a common form of the disease, the lesions being rounded, defined, and varying in size from a pin-head to a split pea. The tubercles may then undergo absorption, leaving a desquamative surface (*lupus exfoliativus*), or ulceration causing destruction of tissue (*lupus exulcerans*). The ulcers may also be the seat of excessive granulation (*lupus hypertrophicus*). The disease appears, as a rule, in childhood, running a chronic course, persisting even throughout life. It attacks the face, as a rule, especially the nose, upper lip, and cheeks; also the ears, hands, and even the mucous membrane of the mouth and larynx, often producing much destruction of tissue, and, through the formation of extensive cicatrices, ugly deformity. Little can be said respecting the cause. It is related to the condition known as scrofula, and generally begins before puberty, differing in this respect from lupus erythematosus. It is rarely hereditary, and attacks both sexes equally. It is rare in this country, but is common in southern Europe.

The disease is sometimes met with in connection with scrofula, but in many cases is distinct from this disease. Pathologically it is a chronic inflammatory process characterized by a small-cell infiltration, tending to form in groups, and having its primary seat in the corium. These cellular groups are called by Kaposi "lupus nodes." Giant cells are also occasionally encountered. The combination of lupus and epithelial cancer is occasionally met with, the cancer developing from the rete and glandular elements of the skin long affected with lupus. It must be distinguished from syphilis, cancer, lupus erythematosus and acne rosacea. From syphilis, it may differentiated by the character of the ulcer, its slow, chronic course, slight, inoffensive discharge, and scanty crust. The cicatrices are moreover hard, irregular and yellowish, while in syphilis they are soft and whitish. From cancer lupus is easily distinguished. Cancer is as a rule localized, circumscribed, painful, indurated, and is accompanied by great destruction of tissue; it is furthermore a disease of later life. Lupus erythematosus occurs after puberty, is never accompanied by tubercles or ulceration, and shows usually disorder of the sebaceous glands, which last is not the case in lupus vulgaris. From acne rosacea, it is distinguished by the history of the lesions and by the dilated bloodvessels and the pustules.

Regarding treatment, the disease will always be found obstinate, and usually nothing short of heroic remedies yields good results. Internally, iodide of potassium and cod-liver oil are valuable remedies. External treatment is, however, most important, and a large number of remedies have been recommended, most of them being of a stimulating or caustic nature. In the early stage of the process stimulating applications, such as equal parts of iodine and glycerine, mercurial plaster, and tarry lotions and ointments, may be employed with a view of bringing about absorption. In a majority of cases caustics will have to be resorted to, and the ones most generally used are nitrate of silver in stick form, pyrogallic acid, carbolic acid, caustic potassa, chloride of zinc, and arsenic. One of the most valuable methods of treatment is that by erasion with the curette. Scarification, multiple or linear, is also highly useful; it must be repeated at intervals, and it will be noted that the lesions grow a shade paler after each operation.

SCROFULODERMA.—Under this term are designated those cutaneous changes which manifest themselves in strumous or scrofulous subjects. The most common lesion is the scrofulous ulcer, which is a degeneration of the skin resulting from the ulceration of an underlying lymphatic gland. Such an ulcer is usually elongate, of a violaceous or pinkish color, with an uneven surface, undermined here and there, and exhibits little tendency to undergo reparative change. Another lesion is the variously sized, irregularly shaped, yellowish flat pustule, met with upon the trunk and extremities, running a chronic course and leaving superficial scars. Another and rarer form is the fungoid variety, appearing perhaps most frequently about the extremities, especially the hands.

The treatment consists in the administration of such remedies as cod-liver oil, sulphur, iodine, phosphorus, and lime. Locally, stimulating ointments are indicated, and above all the use of the curette, as in the treatment of lupus vulgaris.

ORIGINAL ARTICLES.

ON SO-CALLED ABSCESSES OF THE FRONTAL AND MAXILLARY SINUSES, AND ESPECIALLY ON THE VALUE OF PERCUSSION AS A MEANS OF DIAGNOSIS,

AND THE PROPER OPERATIVE MEASURES FOR THEIR RELIEF.[1]

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I HAVE used the term "so-called abscesses" as, properly speaking, these are not strictly abscesses, but accumulations of pus in normal cavities. But the term, though loosely used, is perhaps the briefest and best, and is not really likely to lead us astray.

Both of these cavities are lined by continuations of the mucous membrane of the nose, and as is natural, therefore, one *cause* of such abscesses is a chronic or occasionally an acute nasal catarrh. Indeed, it is surprising that such results are not more frequent in view of the very numerous cases of the latter malady, whether as a chronic nasal catarrh, or as in the ordinary acute "cold in the head." In the latter the frontal sinuses especially are very frequently involved, as is shown by the frontal headache and the sudden and abundant escape of thick, ill-smelling, greenish discharge. That abscess of the frontal sinus is so rare is probably due to its effective drainage by gravity, as well as to the size of the infundibulum. In over twenty years of active practice I have seen only the two cases here recorded, and Dr. Harrison Allen, who saw the first case with me, informs me that in his extensive experience with nasal catarrh this is the only case he too has seen.

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[1] Read before the Philadelphia Academy of Surgery, June 2, 1884.

Another cause of abscess in the antrum is dental caries, or alveolar abscess. According to Salter, this is the most frequent cause of antral abscess, and this view is sustained by the number of cases recorded by him, and by Garrettson, Jourdain, and other dentists.

Sometimes mere closure of the orifices of these sinuses is sufficient to cause abscesses, by the want of proper "ventilation" of the sinuses, the retention and decomposition of the secretion and subsequent irritation. But this closure is usually merely due to tumefaction of the mucous membrane consequent upon catarrhal inflammation.

Traumatism may also occasionally be assigned as a cause; both accidental, as from blows and such like accidents, or surgical, as *e. g.*, Langenbeck reports two cases following resection of the infra-orbital nerve (*Archiv klin. Chir.*, xi., 1869).

In the frontal sinuses, though occasionally in the antrum also, especially in tropical climates, the larvæ of insects are sometimes causes of abscess, as is mentioned by Allen, Hyrtl, Dumesnil, Bordenave, and others. Galezowski[1] reports one curious case caused by a small splinter of wood in the root of the first left molar, which had been long carious. Low fevers also have occasionally produced such abscesses; occasionally also syphilis.

The *symptoms* are both local and constitutional. The constitutional symptoms are alike in the two disorders, chill, fever, thirst, sleeplessness, etc. But it is to be noted that they may be, and generally are, entirely absent, especially if the case is subacute or chronic, as in both of the cases recorded hereafter. On the other hand they may be of exceptional severity, as in the case recorded by Dr. Muir, of Madras (*Edinb. Med. Journ.*, 1866), in which death occurred in sixteen days from intra-cranial suppuration and epilepsy. Foucher and Van Boeneck also have reported fatal cases.

The local symptoms will vary according to the sinus involved. In abscess of the *frontal sinus* there may be pain in the forehead, often neuralgic in character, and following the nervous branches; a feeling of stuffiness in the head and nose; profuse or more frequently only moderate discharge of nasal mucus and pus. The mechanical symptoms will often predominate; sometimes, as in the case below, to the exclusion of the others. The pus will gradually increase and will cause either expansion of the cavity or perforation of one of its walls. The expansion may be bilateral if there be no partition between the two frontal sinuses, or unilateral if the septum be complete; exophthalmos may possibly result, as shown by Salter and Soelberg Wells. If perforation occur, it may penetrate either of the three walls. Most frequently it will penetrate the thin roof and bore into the anterior fossa of the skull and may cause meningitis; or it may penetrate the floor and so escape into the orbit, the site of the orifice being in some cases far back in the orbit; or, thirdly, it may open anteriorly above the eyebrow. It should also be remembered that openings may exist in any one of these situations, either as a result of atrophy or of faulty development, as has been best shown by Zuckerkandl. These most frequently exist in the orbital roof. If such perforations occur under the external skin, the escaping pus will form small and gradually enlarging soft tumors, reducible by pressure or by recumbency (an important point) and showing fluctuation if of any size. The character of the contents can then be easily determined by the hypodermic syringe or the exploring-needle. They may readily be mistaken also for sebaceous or other small cysts, or for tarsal or orbital tumors, an error easily corrected by attention to the points just mentioned.

In abscess of the *antrum* the pain is deep-seated and is apt to be referred to the teeth and the cheek, though it may sometimes radiate to considerable distances; a sense of fulness is perceived; if the nasal orifice is patent, pus will escape from the nose, and it is to be observed that it escapes from only the affected nostril, and if that nostril be cleansed and the patient lie upon the sound side, it will readily refill. If the roots of the first and second molar penetrate the antrum, as is not infrequently the case, the pus may escape by this easy channel and may destroy one or both of these teeth, thus transforming what is a frequent cause of the disorder into an effect. But if the pus be pent up, distention will also occur here, ending finally in perforation. If the orbital floor yield most readily, exophthalmos and even permanent amaurosis may result, as in Salter's notable case. The pus may even pass by the ethmoidal cells and orbit into the cranial cavity, as in the cases of Foucher and Van Boeneck already referred to (Bousquet, op. cit.), or it may push down the roof of the mouth, or push out the anterior wall forming the cheek. In all these cases great deformity exists, both from the distention of the bone and the inflammatory swelling and œdema of the soft parts; and if the pus escape through the cheek, instead of the mouth, unsightly depressed cicatrices result. With distention of the anterior wall comes also marked thinning of the bone, so that it will often crackle like parchment, and fluctuation may be perceived. Such swellings may be even mistaken for malignant diseases, and Heath, Agnew, and Broca mention cases of removal or impending removal of the jaw for a disease perfectly amenable to simple operative treatment.

The *diagnosis* of such abscesses is in general fairly easy, based upon the symptoms already stated, but one means of diagnosis that has served me a good turn I have not found mentioned in any of the text-books or special treatises I have consulted, viz., *percussion*. Even in the frontal sinus, if the median septum be complete, percussion will give an appreciable difference of tone on the two sides, the affected side being of course the flatter of the two; but in the antrum this is unmistakable to a practised ear. In fact, as will be seen, the diagnosis in the second case to be related was based largely on this physical sign. Of course, it would not assist us to diagnosticate between an antrum filled with pus and one filled with a cyst or a solid tumor, but taken in connection with the other symptoms present, it will go far to make certain that which is already probable. The operative treatment will be discussed later.

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[1] Bousquet. Etude sur les abcès développés dans le sinus maxillaire. Paris, 1876.

CASE I.—Abscess of the frontal sinus, resulting from chronic nasal catarrh; perforation of orbital roof anteriorly; operation; cure.

Rev. Dr. W., æt. 54, for many years a sufferer from nasal catarrh and asthma, about two and a half years ago, casually called my attention to a small tumor as large as a large pea, just below the inner end of the right eyebrow, which he stated had existed for some months. Examining it very hastily, I judged it to be a small sebaceous tumor and told him if it enlarged any to consult me again when, if need be, I would remove it. I saw him at frequent intervals, and a year or so later observed that it had enlarged slightly and was becoming a mechanical obstacle in opening the eye. He then told me he had repeatedly observed that on rising in the morning it was not perceptible and only reappeared a short time after assuming the erect posture. I found that steady pressure would cause its disappearance in a few seconds, when the finger perceived an opening in the frontal bone about one-third of an inch in diameter, immediately below the inner end of the supra-orbital ridge. Percussion also showed a slight difference in the sound over the two frontal sinuses, the right being slightly duller. He had had for a long time a moderate and somewhat offensive nasal discharge from his nasal catarrh, but no increase recently, and no blood had been observed. Of late there had been a feeling of fulness in the right frontal region, but no real pain or other marked discomfort, and no constitutional disturbance. In view of the physical signs and his chronic nasal catarrh, I then diagnosticated an abscess of the right frontal sinus; aspiration by a hypodermic needle confirmed the diagnosis by revealing the contents to be an offensive, thick pus. Dr. Harrison Allen kindly saw him also and confirmed the diagnosis and assisted me in the operation. On February 21, 1883, I gave him ether and laid bare the opening by an incision about half an inch long, which gave exit to about two drachms of pus. The probe showed that the right sinus was completely separated from the left by a septum, that it was about half an inch deep antero-posteriorly, and that the internal surface was bare of mucous membrane, a curious fact in view of the complete recovery without necrosis. By a grooved director, slightly curved, I bored a passage with ease into the nose, washed out the sinus with carbolized water, and carried a rubber drainage-tube through the upper orifice into the nose and as far as the opening of the right nostril, securing it in place by a thread. The nose was examined by the finger and probe and a small piece of dead bone was removed by the forceps. The bleeding was slight. Moderate reaction followed for a couple of days, the temperature rising to 100.2° and quickly subsiding. Considerable pus was discharged by the nose. The cavity was syringed thrice daily by carbolized water. At the end of three days, as the discharge had much diminished, a small bundle of horse-hairs was substituted for the rubber tubing, and these were gradually removed during the next five days, when a single hair was left. At the end of the second week this was removed, the discharge then having ceased. The opening closed in a day or two. From then till now, a period of sixteen months, there has been no further trouble, save the nasal catarrh, for which he is now under Dr. Allen's care. The nose, I should say, is very high and narrow and the walls in contact on the right side.

CASE II.—Abscess of the right antrum, arising from a cold in the head; operative perforation of anterior wall; cure.

Mrs. A., æt. 36, a delicate woman of a nervous organization, while in the country during the summer of 1882, caught an ordinary "cold in the head," which persisted for weeks in a moderate form with a slight muco-purulent discharge. She consulted me for it in November, 1882, but it was so moderate that I gave her simple remedies and saw her but four times at my office from November, 1882, to March, 1883. As the "cold" still persisted and had rather grown worse, I now examined her with care. She complained of slight pain in the right cheek, extending toward the inner angle of the eye, with a sense of discomfort and fulness. The teeth were sound, and there was no toothache. The discharge was somewhat scanty in the morning, but at about ten o'clock daily she had a pretty free discharge, enough to soil about two handkerchiefs. It was muco-purulent in character, unmixed with blood. From this hour the discharge lessened and was scanty during the rest of the day; it did not waken her at night; the amount varied somewhat on different days. The symptoms of "cold" were limited chiefly to the slight pain and the discharge. The nose was not blocked so as to interfere with respiration, except when obstructed with the discharge. Posture influenced the discharge only slightly. There was no fulness of the cheek, no thinning of the anterior wall of the antrum, no swelling of the overlying soft parts, no deformity in the roof of the mouth or about the orbital floor. Percussion over the two antra, however, revealed unmistakable dulness on the right side as compared with the left. This could only be caused by the growth of a solid tumor in the antrum, or by an accumulation of fluid in a cyst, or of free pus. The history, physical signs, and symptoms all seemed to point to the latter, and accordingly I advised an operation for its relief.

April 5, 1883, after giving ether, I perforated the anterior wall of the antrum, between the bicuspid and the first molar teeth, with a carpenter's triangular "counter-sink," using the instrument found in the ordinary set of tools that come in a hollow handle for household use. About a half ounce of non-fetid pus escaped. I then introduced a new Nélaton catheter and syringed out the cavity with carbolized water, till the water came away clean. Nearly all of the injection escaped by the nose, thus showing the antral opening to be patulous and explaining many of the observed symptoms. Nothing was used to plug the opening and thus to prevent food from passing into the antrum, but to attain this object the diet was restricted to milk.

The reaction was very slight, the temperature never rising above 99.4°. For six days the antrum was washed out daily in the same manner, using smaller catheters as the opening contracted; two days later the opening closed and solid food was then allowed. All the symptoms of the cold quickly disappeared and no trouble has been felt from that time till the present, a period of fourteen months. The cicatrix is not perceptible.

The value of percussion as well as of the hyperdermic aspiration is sufficiently shown by the histories related, and it only remains to discuss the operative treatment.

As to the case of frontal abscess, it is not needful to say anything further; and in reference to the antral abscess, only the point at which it is desirable to puncture needs a few words.

A century ago Jourdain recommended catheterism of the antrum by the natural opening, but the commission appointed by the Academy of Surgery rejected the proposed operation as "difficult and uncertain," and more lately, Broca has confirmed the opinion that it cannot be done even on the dead subject. Still more recently Zuckerkandl[1] has proposed to penetrate by an artificial opening below the natural one, where only mucous membrane separates it from the nasal cavity. But such an opening is neither an easy nor a sure operation, in so narrow a cavity as the nose, especially if the side involved is the narrowest one; nor does it provide so effective drainage as the alveolar process or the anterior wall, where the suction of the mouth as well as gravity facilitates the escape of the pus. About the only advantage it has is that it avoids the possibility of the entrance of food into the antrum. But this is not a practical difficulty. Restriction of the food to milk for a few days avoids all danger; and, as a matter of fact, I find that no pains have been taken, or at least are recorded in the published cases, to avoid any such accident, and no mention is made of its having occurred.

Nearly all modern authors, as Heath, Garrettson, Agnew, Gross, Bousquet, etc., advise the removal of a tooth and penetration into the antrum through one of the sockets by a trocar or drill, care being taken that the force used at the moment of puncture shall not drive the instrument too far up and so wound the eye. If the first or second molar tooth be so carious as to be useless, so that it ought to be drawn anyhow, or if the disease arise from the tooth, of course it should be removed and its socket used as a route for the perforation, not however by a trocar or drill, but by the surgical engine, as stated by Garrettson, since this will penetrate readily, and no danger of wounding the eyeball can arise. The first or second molar should be selected, inasmuch as their roots are directly in contact with the floor of the antrum, and even may penetrate its cavity.

But if these teeth are sound or by treatment can be preserved as useful teeth, they ought in no case to be destroyed. To extract a useful tooth needlessly is little short of a surgical crime, as it inflicts an irreparable and serious injury. In such a case I would strongly advise the perforation of the anterior wall, either by the "countersink," which I used, or by the surgical engine. No special trephine is necessary. The operation is easy, effective, and harmless, and its results leave nothing to be desired.

PROSTATIC CALCULI;

THEIR PROBABLE CAUSES, WITH NOTES OF REMARKABLE CASES.[1]

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There are very few subjects connected with medical science, which are involved in more obscurity than calculous diseases; and none which prove of more interest to the practical surgeon. Renal and vesical calculi have, from the earliest history of our profession, offered a fertile field for pathological research; and those minute concretions which form within the follicles of the prostate gland—although differing in their chemical constituents, and manner of formation from urinary calculi—have proved especially interesting, since their true cause has, as yet, not been thoroughly understood.

These minute concretions being at first almost microscopic in size, gradually increase, yet rarely acquire any considerable dimensions; seldom becoming larger than an ordinary pea. Still they aggregate in considerable numbers, studding the follicles of the gland, or when increasing in size, they break down its parenchyma and collect in distinct cysts. They increase in size doubtless from a deposition upon their surface, and when not escaping from the follicles they induce absorption of the tissue by direct pressure, and thus come into contact, forming considerable numbers collected together in one or more distinct pouches. Usually we find several calculi, each seated in a separate duct; these are generally quiescent and give no evidence of their presence; doubtless they frequently escape along the ducts of the prostate into the urethra and the bladder, and are washed out by the urine. Again, numerous concretions increasing in size collect together in a cyst, attain quite large dimensions, light up considerable irritation and inflammation, produce severe constitutional disturbance, terminating in abscess with ulceration, and are discharged either through the rectum or the perineum. It is possible that sometimes they may find their way into the bladder, and if not discharged with the urine may become the nucleus of true urinary calculus: this, however, is not probable, since we seldom if ever find calculi having a phosphatic nucleus encrusted with the lithates.

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[1] Norm. u. Path. Anat. der Nasenhöhle.

[1] Read before the American Surgical Association, April 30, 1884.

The accepted opinion as to their formation is, they have their origin in an oval vesicle of a single wall of homogeneous membrane, which is occupied by a colorless, finely mottled substance, in the centre of which, a nuclear corpuscle occurs. Their mean diameter being about $\frac{1}{1000}$th of an inch, until gradually increasing in size, the envelope still being visible, the amorphous matter begins to be arranged in layers concentric to the cell-wall: still further on in their development, the vesicles gradually increase in size, until their diameter reaches $\frac{1}{200}$th of an inch, or even more, continuing to show the concentric layers, which are now more developed on one side than the other, seeming like so many repetitions of the original envelope, the intervals between the layers being occupied by a finely mottled deep yellow or red substance. There is, within them, a central cavity which corresponds to their external contour in form, being triangular or quadrilateral with rounded angles.

Such is their usual and normal appearance, from which however, there are numerous variations showing a change of form and internal arrangement which makes them seemingly to occupy an intermediate position between organic growths, and inorganic concretions: like the former they are vesicular in their origin, and in their gradual growth, which appears to take place chiefly from the dilatation of the vesicle and successive deposition in its interior; on the other hand, they simulate inorganic substances in their shape, in their tendency to become infiltrated with earthy matter, and in their disposition to pass into the condition of a dead amorphous mass of a deep yellow, almost black substance.

It is a little remarkable that their chemical composition varies in the various stages of their development, and is, at all times, widely different from either renal or vesical calculi. At first they consist of little else than animal matter, gradually acquiring, but only when in a state of degeneration, calcareous salts, which, according to the analysis of a number of chemists, and especially that of Lassaigne, is—in 100 parts—

Basic phosphate of lime	84.5
Carbonate of lime	0.5
Animal matter	15.0
	100

On the other hand, we find that vesical calculi have a distinct nuclei upon which crystalline and amorphous deposits—more properly termed by Dr. Vandyke Carter "submorphous structures"—settle, and become embedded together in a colloid matrix, thus forming calculous masses. We also know that, when we come to examine the chemical constituents of different collections of renal and vesical calculi, we find three-fifths of all calculi met with in adults, of all ages, are composed of uric acid and the urates; whereas not quite two-fifths are phosphatic, while only some three or four per cent. of the whole number are oxalate of lime. Three-fifths, then, are the products of urine abounding in an acid, of which they are the expression; the remaining two-fifths are the products of urine, generally alkaline, mostly ammoniacal, of which they are the result; being, as a rule, ammoniaco-magnesian phosphates. It follows, then, that the urates, the oxalates, and a few of the phosphates—those which are formed within the kidney—must be the result of certain constitutional derangements; whilst, on the other side, the mixed phosphates are produced solely within the bladder, and are a consequence, not of constitutional, but of local disease: this is usually a sequence of enlarged prostate in men who have passed the prime of life; that steadily progressive sequence of pathological changes incident to advanced life, which favors the formation of phosphatic deposits within the bladder. For whenever the outlet to the bladder is obstructed, and the urine retained, it rapidly passes into a state of decomposition, eliminating free ammonia which lights up and increases a cystitis; now alkaline pus is secreted in abundance, and when formed it quickly gives up its soda to the lightly held phosphoric acid of the acid phosphates of ammonia and magnesia of the urine, which earthy substances, held in solution only by an excess of phosphoric acid, are rapidly precipitated as insoluble phosphates. When the pus is changed by the action of the liberated ammonia—as above mentioned—it is, together with the mucus of the bladder, converted into an adhesive colloid medium, which cements together the insoluble ammoniaco-magnesian phosphates into a mass, and thus forms the ordinary phosphatic concretions found in the bladder.

Very different appear to be the causes which produce prostatic concretions: instead of being sedimentary, so to speak, the deposition of their earthy material is doubtless the result of a deranged action of a mucous membrane, not a consequence of absolute disease, but, more properly speaking, should be considered indications of a trifling derangement in the secreting functions of the gland itself: or, as suggested by Virchow, is the consequence of the dissolution of the elements of the prostate, furnishing a fluid which, by the gradual formation of deposits, produces these amyloid bodies—bodies closely analogous to the corpora amylaceæ of the nervous system.

As their chemical composition is so widely different from that of true urinary calculi, being chiefly phosphate of lime, a substance, which appears never to be deposited in an unmixed state from the urine, it is evident that we can always readily distinguish them from those of urinary origin.

Without, however, consuming time with the bibliography or literature of the subject, I desire to call attention to one or two remarkable instances of large prostatic concretions which have been placed on record, before I present to the Association the clinical history, together with the specimen removed from a case, which during the past month has occurred within my observation.

Perhaps the most remarkable example, of which we have any record, is the one reported by Dr. T. Herbert Barker, of Bedford, England; a description of which is to be found in the *Transactions of the Provincial Medical and Surgical Association of England*, vol. xv. new series vol 3. pp. 235–242.

The patient, a farmer's laborer, aged 26, called upon Mr. Barker on the 25th of October, 1843, suffering from complete retention of urine, with considerable pain in the urethra, and especially in the perineum. He had a fistulous opening in the under side of the penis toward the left, about three inches from its extremity, from which a purulent fluid was discharging: there was a deep-seated hardness discovered upon pressure of the perineum, and a distinct crepitation detected upon moving the mass from side to side, as if produced by the limited rubbing of calculi impacted together. A rectal examination revealed considerable enlargement in the region of the prostate gland, and a similar crepitation was also felt as far as the finger could be introduced. All that could be learned of his previous history was, that since childhood, when four years of age, he labored under incontinence of urine, which had continued to the present time, rendering him offensive to society, and causing him, long since, to abandon it as much as possible. Until recently he had never suffered any severe pain, nor had his urine ever found any other outlet save through the natural channel, although recently the fistulous opening had made its appearance.

Mr. Barker removed the mass of calculi through the ordinary lateral incision, to the left of the perineum; they proved to be twenty-nine in number, weighing collectively ℥iij, ʒiv, gr. j=1681 grains Troy.

This collection of calculi is put upon record as one stone, which is not absolutely correct, since the mass was composed of distinct calculi, twenty-nine in number, cohering together by curved faces and easily separated into distinct concretions. The mass measured four inches and seven-hundredths in length, being very much larger at one end than the other, the larger end occupying a cyst within the prostate, from which it extended forwards into and along the urethra. An analysis of the largest calculus, made by Dr. Golding Bird, shows it to be identical in composition with those concretions which are occasionally found in glandular structures, consisting of phosphate of lime with a rather larger proportion than usual of the ammoniaco-magnesian phosphate: clearly showing that it differed, in a measure, from the usual composition of pure prostatic concretions.

A similar stone, said to be of analogous composition, but with no definite history, is catalogued as Specimen No. 2148, in the extensive collection of Guy's Hospital.

The second largest concretion of which I have found any authentic mention is in the Museum of the Royal College of Surgeons of London—specimen marked H, No. 13. This, like the one of Mr. Barker, cannot strictly be considered a calculus, since it is composed of four distinct calculi, being regarded as a single one simply because the four portions—one large and three small—were coaptated by smooth surfaces, although separate within the prostate. According to Prof. Owen, this so-called prostatic calculus, composed of four pieces, and having articulating surfaces, was taken from a cyst within the prostate, which cyst communicated, through an opening, with the bladder, into which one of the calculi protruded about one-tenth of an inch. The weight of this quadrified calculus is 575 grains, and it cannot properly be called anything else than a secondary prostatic calculus, or calculi, since there was a connection between the cyst and the bladder cavity; and the analysis of Mr. Owen clearly proves it to be composed of salts deposited from the urine, and not of prostatic origin, being of mixed phosphates, with the urate of ammonia and carbonate of lime.

Quite a number of cases of large urethral calculi are on record, but as they were of either renal or vesical origin, and their chemical constituents purely urinary, they do not pertain to the subject under consideration, and hence I make no reference to them.

Mr. Crosse, of Norwich, England, who has given to the profession a most admirable "Treatise on the Formation, Constituents, and Extraction of Urinary Calculus," devotes some space to the consideration of prostatic concretions; and, although mentioning several instances of large vesico-urethral calculi, does not speak of any case analogous in size or composition to the one mentioned by Mr. Barker, or the specimen in the Museum of the College of Surgeons. In fact, the cases he speaks of are not true prostatic formations, but rather what I am pleased to term secondary prostatic calculi, being vesico-urethral, and due to the arrest of small stones in the prostatic urethra during their transit from the bladder; all of them being composed of mixed salts, conclusively showing them to be of urinary origin.

Hence, not having been able to find on record an instance in which a single stone (one which a reliable analysis shows to be of prostatic origin), giving the size and weight of the one I now propose to present to the Association for inspection, I have thought it would prove interesting if I briefly furnish its history:

C. E. H., aged 46, a merchant by occupation, of fine physique, born in Mississippi in 1838, went to Virginia when but a child, and has resided in that State, at Wytheville, since his infancy. Of good general health in youth, his first trouble began in 1855, when, at the age of seventeen years, he contracted a blennorrhagia, which proved persistent, yielding only after a long course of stimulating injections; from this time on he had no trouble as a consequence of his disease, until the winter of 1864, at which time, whilst in the army, he experienced some difficulty in urinating, especially after long and fatiguing marches; this continued until the fall of 1865, causing him to resort to dilatation of the canal, which gave him measurable relief, and he married four years after, in 1869. His first child was born in 1871, and a second in 1875. Soon after this date he again noticed difficulty when he attempted to pass his urine, and an examination showed that a stricture had formed, which would not yield to dilatation; his general health had been failing since 1873, and after the birth of his child in 1875 he had no more children, notwithstanding his sexual desires were unabated, and his wife in robust health. In 1877 he was first taken with absolute retention, and it was found impossible to introduce any instrument into his bladder, and the only relief which he obtained was from the free use of opium, hot hip baths, poultices, etc. After this attack of retention he had constant stillicidium of urine—the overflow of a distended bladder; this caused him to seek the advice of a surgeon of Baltimore, but without relief, the stricture proving impermeable to instruments, and he unwilling to submit to the operation of an external section. His health was now gradually failing, and during the year 1883 he was forced to retire from business, and measurably to exclude himself from society on account of his condition, being compelled to wear a urinal both by day as well as by night. In this condition he came to Mobile, in the early part of January of the present year, for the purpose of having me perform any operation which would possibly afford him a chance of relief, giving me the history which I have briefly told.

Examining his condition, I found him nervous, dispirited, a confirmed dyspeptic, generally broken down in constitution, although his habits were good, and he informed me he had never been intemperate. There was no history of any serious attack of illness, or of gout or rheumatism in his family; he had resided nearly all his life in a locality where hard water is drunk, and this may have been one, if not a chief factor of his dyspeptic condition, of his obstinate constipation, and the slight attacks of "bilious derangement" which he told me he was subject to.

A urethral exploration revealed a contracted meatus, and a canal narrowed from a normal calibre of 30 mm. to one of 25 mm., to the bulbar region, at which point I encountered a dense firm coarctation, through which it was impossible, by any manipulation which I could bring to bear, to pass the smallest size whalebone bristle. Not being in a condition to undergo an operation, I concluded to put him under a course of treatment calculated to brace up his general health, and when able to stand it, I would perform external perineal urethrotomy without a guide; it was not, however, before the 4th of March following that I found him in a condition for the same; and on that day he was placed under the influence of an anæsthetic, and in the usual cystotomy position. I then introduced a small bristle guide down to and into the coarctation, with the hope of being able to glide upon it a tunnelled staff, which would enable me, with precision, to open the urethra directly upon the face of the stricture. This I was unable to do, for although the guide passed into the stricture, when it reached the prostatic portion of the canal, its passage was arrested, and the presence of the stone at once made manifest. I had not then suspected any complication of the kind, and even after the stone was touched I naturally concluded it was only a small vesical concretion which had been arrested in the sinus of the prostate; for I had carefully examined this body through the rectum, which, with the exception of an unusual degree of hardness, gave no other evidence of any foreign body being contained within it. Unable to effect anything with the guide, I cut directly down upon the point of the staff, in the median line of the perineum, trusting to my knowledge of the anatomy of the region in opening up the membranous urethra to the apex of the prostate. I thought I would be able to extract the calculus and complete the operation, as is usual in cases of perineal section. In this I was foiled, for a careful examination now revealed the fact that the concretion was large and solid, filling the entire central portion of the gland, from which I was unable to remove it with the forceps, and was compelled to extend the incision downwards to the base of the prostate, and with two fingers in the rectum dislodge the stone, as after the old method of cutting upon the Gripe. After its removal I made a careful digital examination of the cavity, which it had occupied, and found the gland structure almost gone, a cyst remaining, which seemingly was limited only by the capsule of the gland; the opening of the urethra into the bladder was not enlarged, nor was there any abnormal opening into that viscus. A little pressure enabled me to pass my finger into the bladder and explore it thoroughly: there was no contraction of its walls, and no appreciable diminution of its normal size, which somewhat astonished me, as it is usual in those cases in which the inner mouth of the urethra is obstructed, causing an arrest of the urine, with constant stillicidium of the same, to find the bladder walls thickened and its cavity lessened in size.

The patient reacted well—although at first he bore the anæsthetic badly—and went on to a favorable convalescence, the wound having almost healed, and he expressed himself as being vastly more comfortable than for fifteen years past; when, unfortunately, on the 19th, fifteen days after the operation, he indulged his fancy in a bowl of stewed dried peaches, which produced a violent attack of cholera morbus, which in his enfeebled condition speedily passed into collapse, and he died within twelve hours.

The calculus is very like, in size and shape, a normal adult prostate, it being, in fact, a perfect casting of the expanded cavity of the gland; and, from its chemical composition I feel justified in believing, had its origin first within a follicle of the gland, and, escaping into the sinus pocularis, became arrested, and from continual accretion attained its present size, producing, by its pressure, gradual and regular absorption of the gland itself.

Its weight is ʒvij + grs.x—or, in round numbers, 430 grs. Troy; a concretion of very fair average, even for a bladder stone, and one which ranks among the largest of single prostatic calculi. Fragments which were broken off in the attempts to use the forceps for its removal, were sent to Prof. T. G. Wormley, of the University of Pennsylvania, who carefully examined them, and wrote me as follows: "I find it composed entirely of calcium phosphate, or *phosphate of lime;* the specimen is a very interesting one."

As will be seen upon inspection, the stone has not been sawn open, and hence I am unable to say what the nucleus is; but from the constituents of its cortical portion, and its concentric and regular layers, I feel very well assured that the concretion is one purely prostatic in its origin.

Daily Record. March 5.—8.30 A. M. Patient rested well last night, and expresses himself as feeling very well, indeed. His urine is passing *via* both the urethra and the wound. Pulse 96; temperature 98⅗°. 5 P. M. Has spent a quiet day; comfortable; his urine still passing in normal quantity, and very much clearer than before the operation. Pulse 92; temperature 100⅕°. Doing very well.

6th.—11 A. M. He rested very well last night, and general condition is good. He had a natural action from bowels this morning, and from a little swelling of the wound, the most of the urine passes along the urethra. Pulse 96; temperature 100°. Doing very well. 6 P.M. No change in pulse or temperature; has spent a comfortable day.

7th.—11 A.M. He slept quietly all night; had some desire for food, and said he would fancy a little port wine. Had a good, free action from bowels, and was very comfortable. Urine passing both ways, but more through urethra; this is due to the slight swelling of the wound. Pulse 96; temperature 100⅖°. 6 P.M. He has been doing very well all day, and says he feels extremely well. Ate more than any day since the operation, and took about ℥iv of port wine. This, doubtless, ran up his pulse and temperature, although general condition is good. Pulse 100; temperature 101⅕°. Ordered calomel, gr. j; sugar, grs. x—at bedtime; also, ℈jss of bromide of sodium.

8th.—11 A.M. He spent a very comfortable night; slept well. Calomel operated well. He is passing urine at will, through both wound and urethra. Some slight suppuration of wound. Pulse 92; temperature 92⅖°. 6 P.M. No change of condition; expresses himself as very comfortable. Ordered bromide of sodium, ℈jss, at night.

9th.—10 A.M. Slept well; very comfortable. No action from bowels this morning. Urine passing at will, through wound. General condition good. No urine passing save when he has the desire. 4 P.M. This afternoon he is doing well, but there is more heat and rise of pulse. He ate some cooked oysters, which did not agree with him so well. Pulse 96; temperature 101⅕.°. Ordered bromide at night.

10th.—9 A.M. Not so well this morning; no action from bowels since 8th. Says he feels very well, but languid. Pulse 104; temperature 101°. Ordered calomel, gr. j; sugar, grs. x. 4 P.M. Very little change in condition; no action as yet from calomel. Left him to await action of calomel, and then take his bromide at bedtime.

11th.—9 A.M. Calomel acted very well. He slept quietly; feels very much better this morning. Pulse 100; temperature 99⅖°. Ordered light but nourishing diet, and quiet. 5 P.M. Spent quiet, comfortable day, and is feeling very well. His general state is good. Temperature almost normal; pulse 90. Urine passing *via* the wound at his efforts to micturate, but the greater portion passes the normal way. The wound is closing, with healthy granulations, and shows some slight pus secretion.

12th.—He is doing so well to-day that I told him he could sit up in arm-chair, as a rest, if he desired it, and that I would not make the regular afternoon visit.

13th.—Still doing well. Slept well; very much better. Almost all the urine passing per urethra, and he expresses himself as so much better than for years past that he hopes to be perfectly well again.

14th.—Patient steadily improving, and from this date on to the 19th, the case record shows nothing worthy of mention. On the afternoon of the 18th, he was doing so well that I informed him there was no necessity for me to make stated visits, and that I would caution prudence and care, and that he would soon be in a condition to return home. The sequel has been told; an indiscretion in diet brought on the attack of cholera morbus which closed the scene.

THE PATHOLOGY, ETIOLOGY, PROPHYLAXIS, AND TREATMENT OF PUERPERAL FEVER, FROM THE VIENNA STANDPOINT.

(Concluded from vol. xliv. p. 468.)

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IV. TREATMENT. In the event of systemic infection, treatment is of a general and local character. General treatment is symptomatic. The cold-water bath, ice or wet-pack, rectal irrigation, quinine, sodium salicylate, and alcohol are the only reliable antipyretics.

The cold-water bath is employed, as indicated by Liebermeister in 1871, in sthenic cases, when the fever is intense and of long duration. The patient is placed in the bath, with the water's temperature at or below 20° C., allowed to remain ten minutes, removed without drying, and wrapped up in bed. Upon withdrawal from the bath, a glassful of wine, or other mild stimulant, is usually exhibited. A cold bath of brief duration is more effective in the reduction of temperature than a longer continuance in warmer water.

The gradually cooled baths of Ziemssen, in which the temperature of the water is gradually lowered from 35° C. to 22° C., is useful in asthenic cases. Cold wet-packs are well borne by the feeblest patients, especially when the feet and legs are not covered.

Four wet-packs, each one lasting from ten to twenty minutes, in succession, are about equivalent in effect to one cold-water bath of ten minutes duration. Ice-bags, applied to the inguinal regions, are important adjuvants to the wet-packs. Cold spongings, compresses, ice-bags, drinks, enemata, are ineffective when employed to the exclusion of more positive means.

Continuous irrigation of the rectal mucous membrane, with cold water, by means of a double tube, is an effective measure in the reduction of temperature.

Quinine is exhibited in conformity with Liebermeister's views, that in persistently high temperature, it is only then of decided antipyretic action, when given in large doses, 1½ to 2½ grammes, in the course of one-half to one hour, not repeated within forty-eight hours. According as the first dose has or has not effected reduction of temperature to the normal, the second dose, at the expiration of forty-eight hours, must be smaller or larger, respectively. Powdered digitalis, ¾to 1½ grammes, exhibited, at intervals, during the second twenty-four hours, is reported to have an important adjuvant action, when the maximum first dose of quinine has been ineffective. When the fever is of a decidedly remittent, or intermittent type, the indications for quinine are decidedly less urgent.

Sodium salicylate is an effective antipyretic; it is usually better retained than quinine, and is very much cheaper. For these reasons, it is extensively employed in the Vienna Obstetrical Clinics. It is customary, in the beginning of puerperal fever, to administer 3 to 6 grammes of sodium salicylate, in divided doses, during twenty-four hours, and to continue this treatment until the temperature returns to the normal. When quinine and sodium salicylate are not retained by the stomach, they may be exhibited, upon the addition of a little opium, by the rectum, in the form of clyster or suppository, with very slighly diminished physiological action.

Digitalis is seldom employed as an adjuvant antipyretic, while veratrin and *eucalyptus globulus* have received positive condemnation, the former, as dangerous in affections of a distinctly adynamic type; the latter, as totally ineffective.

It has been conclusively demonstrated by extended clinical study that night is the time best adapted to the application of antipyretic agents. Not only is the full physiological action of therapeutic measures more easily established during this period, but also sleep, especially after midnight, is usually gained.

Alcohol fulfils numerous indications. It is an important antipyretic, analeptic, and dietetic agent. The researches of Binz, Breisky-Konrad, Schroeder, Spiegelberg, and Carl Braun go far to establish the truth of this statement. It limits metabolic activity, and consequently the formation of urea and carbonic acid.

"It has, in addition to the stimulant effect, a certain conservative action, and is, therefore, adapted to cases of cardiac debility or paralysis" (Braun).

Rum, containing about seventy-seven per cent. of alcohol, is an eligible form, as producing the maximum effect with the minimum dose. It may be given in teaspoonful doses, every half hour, alone in combination with quinine, or tea, constituting the favorite Continental beverage, "Russian Tea," according to indications. A good cognac, containing fifty per cent. alcohol, or average table wine, containing ten per cent. of alcohol, is frequently employed.

Buss (1878) proposed a fever diet, which has given great satisfaction.

The formula is:

	Grammes.
Beef peptones	100
Grape sugar	300
Cognac or rum	200
Water	300

This quantity of food is administered during twenty-four hours, and may be reinforced by milk, wine-soups, or the famous *bouillon* with egg.

A systematic plan of treatment, combining cold-water baths, wet-packs, quinine, sodium salicylate, and alcohol, is productive of happier results than exclusive reliance upon one or two therapeutic agents.

Considerable difference of opinion, as regards local treatment, exists at the present time in Vienna. As antiseptic methods have received greatest attention and achieved best results in Carl Braun's wards, his views and practice will receive exclusive mention.

In the beginning of puerperal fever, the vagina is thoroughly irrigated with a two to three per cent. solution of carbolic acid, and the vulvar, vaginal, and cervical wounds are treated topically with a five to ten per cent. solution of the same acid.

Braun's methods of treating the uterine cavity have undergone important modifications within the past few years. In the last edition of his work on gynecology, he joins with Olshausen in his protest against intra-uterine irrigation as an inefficient, meddlesome, and dangerous procedure.

At the present time, however, intra-uterine irrigation is invariably practised, immediately upon the completion of the third stage of labor, when indicated by *endometritis sub partu*, bad-smelling and discolored amniotic liquor, dead or macerated fœtus, invasion of the cavity of the uterus by the hand or any instrument.

During the *puerperium*, the uterine cavity is irrigated when there is positive evidence that it is the source of infection. The antiseptic irrigating fluid is a lukewarm dilute solution of thymol; the quantity injected into the uterine cavity at one time is limited to one litre; the number of irrigations, in twenty-four hours, is determined by consideration of the individual cases, but rarely exceeds two.

Infinite care is taken to exclude air from the conducting tubes, and after each vaginal or uterine irrigation a *bacillus*, containing five grammes of iodoform, is placed within each canal.

Routine intrauterine irrigation, injection of carbolic acid or salicylic acid solutions, continuous irrigation with acetic clay (Brunz, 1878), drainage of uterine cavity (J. Veit, 1879), drainage of uterine cavity with ice-cold water (Schroeder, 1879), are methods of local antiphlogosis, which have received most decided condemnation.

Gentle friction, or massage, applied through the abdominal walls to the fundus, at regular intervals, aided by the binder and ergot, is of benefit, when not contraindicated by excessive tenderness upon pressure.

In cases in which a considerable area of the vulvar, vaginal or cervical expanse is involved in an ulcerative or gangrenous process, the continuous lukewarm water bath of Hebra is an invaluable method of treatment. Hebra's water-bed consists of an ordinary bath-tub, in which an iron frame is suspended by chains; upon this frame, suitably covered and provided with a pillow, the patient is placed; by means of a crank she can be lifted up out of the water and returned again, according to necessity. The bath is filled with water at a temperature of 30–31° C., and the patient, perfectly nude, is caused to descend until the water covers every portion of her body, except the head. The temperature of the water is then rapidly elevated to 38–40° C.

She remains in this bath day and night, except when withdrawn for the purpose of evacuation of bladder or rectum. The water is kept at a constant temperature, and is continuously renewed.

Weeks and months are frequently spent, with an extreme degree of comfort, in this water-bed. In the words of Billroth:

"The water protects the wound surfaces from contact with the atmospheric air, prevents decomposition of the sphacelus, favors its separation; it makes every dressing, and every change of dressing, unnecessary; limits the secretion of pus, and hastens cicatrization."

MEDICAL PROGRESS.

COMBINED VERSION IN PLACENTA PRÆVIA.—C. **BEHM** has used combined version in forty cases of placenta prævia, without a single death. This must be regarded as an extraordinarily good result for a condition which ordinarily gives a mortality of forty per cent. Hofmeier has already obtained similar results in the treatment of placenta prævia.

The operation is performed as follows: When dangerous hemorrhage comes on the vagina should be tamponed until the cervix is closed. This being done, and the woman anæsthetized, the whole hand is introduced into the vagina, and two fingers into the cervix. If the membranes present, the operator endeavors to rupture them with the finger, then draws the presenting part (unless it be the buttocks) to one side, at the same time making pressure from without so as to carry the buttocks down, until he can grasp a foot. This is drawn through the cervix, so that the breech acts as a tampon on the lower segment of the uterus, and the placenta is pressed against the sides of the uterus. In central implantation of the placenta, the finger should be pushed through the centre.

After this version the operator waits for the spontaneous expulsion of the child, or at least complete spontaneous dilatation of the cervix, in order to complete delivery. The duration of labor after version is between one-half an hour and eleven hours, the average being one or two hours.

The mortality for the children by this procedure is very great, but the chances for the mother are better. The mortality for the children is, however, no greater than by the old operation.

The causes of the great mortality of the mother under the use of the continuous tamponade is the infection through the blood and other matters adhering to the tampon.—*Centralbl. f. d. gesammte Therap.*, July, 1884.

THE PHYSIOLOGICAL EFFECTS OF KAIRINE.—M. **MOROHOVETZ**, of the University of Moscow, has recently made quite extensive experiments as to the physiological effects of kairine, and publishes (*Medicinsk. Obosrenie*, No. 9, 1884) the following results:

The physiological action of kairine is not simply confined to lowering the temperature. The changes which gr. $\frac{1}{66}$ of kairine will cause in the blood are enormous. In his experiments, Morohovetz used kairine dissolved in a six per cent. solution of common salt, so as to avoid the action of distilled water on the red globules. The blood remained alkaline, but its color changed as soon as a more concentrated solution was used. A continuous current of air deprived of carbonic acid did not restore the red color of the arterial blood. The blood-spectrum was also changed by the concentration of the kairine, and contained four methæmoglobine lines, situated between the C and F lines.

Under the influence of kairine, the blood-globules formed roulettes, at the same time that the middle part protruded from one side to the other. The number of globules does not diminish. The blood of a dog which has taken kairine coagulates almost immediately after it comes out of the vessels. Under the influence of kairine, the red globules of the blood, while preserving their quantitative proportion, undergo a quantitative and qualitative change in regard to the coloring matter; the hæmoglobine is transformed into methæmoglobine, which is precipitated. The change in the color of the blood of a living animal by cyanosis gives a peculiar leaden appearance. The same thing was noticed by Golouboff after the administration of gr. xj of kairine.

The glandular organs are also influenced by kairine. The saliva and bile flow more abundantly after kairine is injected into the blood, or introduced into the duodenum. The bile is viscid, and almost black. The pancreas and the kidneys are not influenced by kairine. It is eliminated by the kidneys, as shown by the action of fuming nitric acid on the urine; a bright reddish ring forms between the acid and the urine—a ring which is characteristic of kairine in an aqueous solution. When bile is normally excreted, this ring takes the spectrum colors, and the urine gives the greenish color-reaction of biliverdine.

The modifications of respiration and circulation are more rapid and pronounced as the quantity of kairine is increased. The direct injection of it into the blood causes an intense dyspnœa, accompanied by an elevation of arterial pressure in the carotid; this being followed by diminished pressure, shortening of the pulse-waves, and filiform pulse. After the ingestion of gr. xxv, the heart of the animal was arrested, and it died of cardiac paralysis, the respiration continuing for some time, and being of a Cheyne-Stokes character. At the autopsy, the cavities of the heart were found dilated and filled with blood. The classic experiment on the frog (ligature of a limb), showed that kairine acted similarly to curare on the peripheral ends of the motor nerves.

In experiments on dogs, Morohovetz found no notable abatement of temperature. The experiments of Filehne have shown that, to obtain a notable abatement of temperature, it is necessary to inject kairine continually; less than gr. iv produces no effect. But it is easy to exceed the required amount, and to throw the patient into such a state that his inspired oxygen is insufficient for his physiological necessities, as kairine deprives the hæmoglobine of a large quantity of its oxygen. Morohovetz terminates his paper by counselling great prudence in the administration of kairine; he considers pulmonary and cardiac affections, and anæmia as absolute contraindications to the administration of kairine.—*L'Union Méd.*, July 10, 1884.

THE RISKS OF CORROSIVE SUBLIMATE INJECTIONS.—The unfavorable cases are beginning to be reported of the use of corrosive sublimate, as what we know of idiosyncrasy leads us to expect in the use of any powerful remedy. In *Schmidt's Jahrbücher* (Bd. ccii, No. 4) some such instances are related. Professor Stadtfeldt, of Copenhagen, while admitting its efficacy in most cases, is yet evidently somewhat afraid of it, especially as entrusted to midwives during labor. In the puerperal state, he used it with excellent results in six consecutive cases, but in the seventh the effect was as follows: The patient, a twenty-three year old primipara, had a retained placenta, which required artificial removal. Uterus and vagina were at once washed out with carbolic solution. Four days afterwards there was a chill, with temperature of 39° C. The next day a solution (1–1500) of corrosive sublimate was injected. After about 300 to 400 grammes of the solution had run out, the patient suddenly complained of headache and difficult breathing. Her replies were somewhat uncertain, but consciousness was undisturbed. Some pains came on in the hypogastrium; the whole lower abdomen was tender, but not swollen. After a time, a profuse sweating came on, and the pains ceased. There were heaviness, giddiness; stools thin; tenesmus; urine highly albuminous; no fever; temperature subnormal. In the course of the next day the most important symptoms were vomiting, thin stools, with tenesmus, great thirst, and headache. The fifth day after the use of the injection the urine stopped, the consciousness became clouded, and the patient died quietly on the next.

Of course, the cause of death was not at once certain, but an autopsy showed no peritonitis. Numerous ulcerations were found in the large intestine. The kidneys were much altered. Mercury could be detected in no organ. Stadfeldt considered it a case of death from mercurial poisoning.

In another instance a woman was operated upon for prolapsus of the vagina and rectum. During the operation, which lasted one hour and a half, the flaps were washed from time to time with a 1–1000 solution of sublimate. The next day the vagina and anus were washed with the same solution, which was also injected into the rectum. On the sixth day the patient complained of great pain in the mouth. The gums were seen to be inflamed. There was much salivation. The use of the sublimate was stopped, and vigorous treatment directed to the mouth, after which the symptoms vanished in a few days.—*Boston Med. and Surg. Journ.*, July 24, 1884.

NEW TREATMENT OF ULCER OF THE STOMACH.—Simple ulcer of the stomach, the ulcer of J. Cruveilhier, which is often called the round ulcer, is one of the most rebellious affections to therapeutic measures. Why is it that this *simple* ulcer, as it is called, persists for months and years without cicatrizing? What cause presides over the formation of the ulcer, and what influences preside over its development, its chronic course? If one wishes to give to these questions a truly scientific solution, he is obliged to acknowledge that there is something connected with its origin and course, which is still unknown. The theories of thrombosis, embolism, and of inflammation, if they explain the losses of substance, and the ulcerations of the mucous membrane, do not explain the form and characters of the round ulcer. So far as the action of gastric juice is concerned, if it contributes to the progress and extension of the ulcer by a sort of digestion, why is this digestion limited so often, and not cause fatal perforation and destruction of the stomach. It would seem that the acid reaction of the gastric fluids has a bad effect, since so much good has been done by alkalines and Vichy water.

The treatment of these ulcers is a more simple matter than the pathogenesis. The beneficial effects of strict diet have long been recognized, especially of the milk diet. But there are serious objections to the milk treatment. A person with ulcer of the stomach should take, if put on the milk diet exclusively, three or four quarts of milk every day. This enormous quantity may be well tolerated, and the gastric pains, the vomiting, and hemorrhages may cease. But one cannot with impunity introduce into a sound stomach, much less into one in bad condition, four quarts of liquid a day, without causing dilatation of the stomach. Without doubt, this can be in a manner obviated if the patients be not allowed to take much milk at a time. But the morbid state and atony of the stomach make digestion more slow and difficult. If to this we add the fact this dilatation of the stomach may cause hemorrhage and perforation of the ulcers, it is easily seen that the milk diet may be a source of great danger.

For a long time M. DEBOVE has paid special attention to means for reducing the quantity of milk ingested. For this purpose he has used concentrated milk and powders of milk, representing, in small volume, considerable quantities of milk. But these have not the nutritive value which is found in meat powders. It has been objected to M. Debove's theory, that the dilatation of the stomach which he attributes to the quantity of the ingesta is due to the affection itself, to the ulcer of the stomach. But, as Bouchard has seen, who has for a long time recommended a dry diet for dilatation of the stomach, and as Debove has also seen, the dilatation disappears under the influence of this regime alone, so that it cannot be due to the ulcer.

The dry diet of M. Bouchard consists in the administration of food very finely divided, or very divisible, as powdered meat or cheese, and at the same time very nutritive. While the amount of dry food is reduced, only a minimum qnantity of liquid is allowed, about a pint of water, or wine and water, in twenty-four hours. On this diet the stomach is never distended by food, and the dilatation diminishes or disappears. It is by this dry diet that M. Debove treats ulcer of the stomach; but he adds an important factor to it. Before commencing treatment he washes out the stomach, in order to clear away the mucus, and the *débris* of food which may be there. This washing is done with a rubber tube by the physician himself, as a little carelessness in its use might cause hemorrhage. Duguet has reported a fatal case of hematemesis, caused by the patient attempting to use the tube himself. Debove has never had a case of hemorrhage attributable to the use of the tube, but he very justly remarks that hemorrhages are quite frequent in ulcer of the stomach, and that when the tube brings up "coffee-grounds" blood it cannot be said that the hemorrhage was caused by the washing. If, however, during the washing the liquid brought up has a rosy tint, the operation should be at once suspended.

M. Debove believes that if gastric digestion and the action of the gastric juice can be suspended for some time, the cure of the ulcer will be greatly favored. By rendering the gastric juice alkaline its digestive properties are taken away, and the transformations of albuminoid substances into peptones is stopped. In this manner the matters undigested by the stomach pass into the intestines with an alkaline reaction very favorable to intestinal digestion. Debove has obtained effects which lead him to believe that he can make a patient take ʒvij of bicarbonate of soda, in three doses, in twenty-four hours. He has shown, by his washings of the stomach, that under the influence of this treatment, the stomach liquids were never acid, and contained no peptones. The patients were given ʒvjss of meat powder, and ʒijss of bicarbonate of soda three times a day. This mixture not being very agreeable to the taste, is introduced into the stomach through the tube. To this diet, which represents ʒlxx of meat and ʒvijss of bicarbonate of soda a day, is added a quart of milk, taken in small quantities during the day.

The *alkaline cachexia* which Trousseau and other physicians have spoken of was seen in none of Debove's patients. This treatment has given most excellent results; results which have never been attained by any other method of treatment.—*Le Progrès Méd.*, July 12, 1884.

Heteroplasty.—L. von Lesser, in an article on the retention of catgut in the organism, and on heteroplasty, gives the results of his experiments on the healing up of foreign bodies in tissues, and the filling up of tissues, and especially of bone cavities, with cork, gum, and lead balls (heteroplasty); he also made experiments in replacing tendons by elastic threads. In the insertion of such foreign bodies into trephine-openings in the roof of the skull and in the tibia, encapsulation only occurred when the wound was kept completely antiseptic; the cork being encapsulated much sooner than the gum. The greater number of the animals experimented upon died of sepsis. When the wound proceeded favorably the enclosed foreign bodies were found pressed out of the trephine-holes and encapsulated in the connective tissue, the trephine-holes themselves closed by a fibrinous membrane or diminished from the edge of the bone out through the marginal growth of bone. In case of sepsis the foreign bodies lay in abscess cavities, and were surrounded by caseous pus, the trephine-holes were surrounded by pus, and in one case had changed into pseudarthrosis. The fact that gum-plates healed up in laparotomy-wounds is one of gynecological interest, and upon which careful experiments were made. Caoutchouc plates were fastened behind the abdominal peritoneum with cutgut, so that the posterior side of the plate was toward the peritoneal cavity and the anterior lying against the parietal layer; it was left in this position for a day. The skin over the plate was sutured deeply and superficially, the muscular structure being sometimes sutured, and sometimes not. With the exception of one case, which, in consequence of wounding the intestine, died of perforating peritonitis, the course of the wound was usually favorable, but sooner or later knotty tumors appeared behind the abdominal walls in the situation of the laparotomy wound, which were found to be abscesses with caseous contents. The caoutchouc plates were found, on post-mortem examination, to be enclosed in connective tissue, from the serosa out; a part of the intestine at the seat of the wound was for the most part enclosed by the anterior abdominal wall, whilst there were no symptoms of inflammation in the peritoneum; in one case there was gangrene of the testicles on both sides. Pus was found partly collected on the anterior surface of the gum-plate, and partly collected in the connective tissue all around the plate; in one it had burrowed down to Poupart's ligament.—*Centralbl. für Gynäk.*, June 21, 1884.

The Treatment of Sprain by the Elastic Bandage.—This method of treating sprains has recently been recommended by Marc Sée. It is the only method which fulfils the two indications: 1. To cause as rapid absorption as possible of the blood extravasated around the joint (a lesion which controls all the other symptoms, such as pain, swelling, difficulty of movement, etc.); and, 2. To favor cicatrization of the torn ligaments and ruptured parts by complete immobilization.

The antiphlogistics and bloodletting, formerly advised by Hunter and Guersant, only partially fulfil the former indication. There is the same objection to the movements which Ribe and Bonnet advise for the injured joint. The refrigerants and cold-water baths advised by Baudens cause contraction of the tissues around the joint, and dispel the inflammation, but they are not favorable to the absorption of the infiltrated fluids. Even massage, though superior to the other remedies just mentioned, fulfils only the second indication; furthermore, it is inconvenient, and requires much patience and time; and between the seances of manipulation the swelling reappears and the pain returns. It is true that massage has the advantage of removing the extravasated materials from the region of the joint toward the more vascular portions of the limb, where they are more easily absorbed. But the elastic bandage has this advantage in a greater degree, since its action is continuous. Finally, and above all, it favors immobilization of the joint, which is impossible during massage, and without which it is almost impossible to get cicatrization of the torn structures and complete recovery in sprains of any intensity. The bandage should be applied to the skin itself, care being taken to fill up the flat and depressed places with wadding, so as to give a uniform surface around the joint for the bandage to act upon.—*Revue de Thérap.*, July 15, 1884.

Total Retention of the Placenta—The retention of a part or the whole of the placenta is a cause of grave trouble, both by causing hemorrhage and by the absorption of decomposing materials. One must not, however, regard a woman as necessarily lost if the placenta be entirely retained. J. Favé reports a case to which he was called, seven hours after labor had terminated, in order to deliver the placenta. He found the uterus displaced, and every attempt to reach the placenta failed: on account of the feebleness of the woman he did not resort to instruments. Coffee and quinine were given for four days. The woman recovered, and became pregnant six months afterwards. Favé thinks it probable that the placenta shrivelled and came away at a menstrual period.—*Journ. de méd. de Paris*, July 19, 1884.

Spontaneous Rupture of the Bladder.—This case came under the observation of Dr. Lugeol, of Bordeaux, who reported it to the Société de Médecine of Bordeaux, in October, 1883.

The patient was thirty years old, and had a stricture dating about twelve years. Difficulty in micturition had existed for a long time, and, finally, he had complete retention. He made powerful efforts to urinate, when he suddenly felt a violent pain in the left flank, which was accompanied by a chill. A few days afterwards, symptoms of a deep phlegmon manifested themselves. Lugeol made two deep incisions, one in the abdominal wall, and the other in the inguinal fold. These incisions gave exit to an enormous quantity of fetid pus and shreds of sphacelated tissue, which had a gangrenous and urinous odor. Three days later, he made a counter-opening on the other side of the abdomen, and put in a drainage-tube. Examination of the liquid which had flowed out of the first opening showed that it was urine. The patient passed urine through the urethra and the opening at the same time. There was, then, in this case, rupture of the bladder, extravasation of urine into the abdominal cavity, formation of a phlegmon, and a subsequent fistule. Lugeol then proceeded to make progressive dilatation, and, finally, to put in a sound, and leave it for several hours each day. The patient was cured.—*Journal de Méd. de Paris*, July 19, 1884.

PERSPIRATION OF THE FEET. — Perspiration of the feet is not a disease, but it is a great inconvenience, especially if accompanied by a disagreeable odor. Certain physicians think that there is no danger at all in suppressing this perspiration, and prescribe astringent lotions of oak bark, tannin, and other substances. Others hold that the infirmity should be protected, and prescribe only a non-toxic substance which will neutralize the odor. For this purpose, the following prescription is the best, and is very cheap:

℞.—Permanganate of potash, . 1 part.
Distilled water, . . . 100 parts.
Thymol, . . gtts. xxx (to ℥iij of water).

Filter-paper, linen, calico, or cork or straw soles may be soaked in this mixture, and then dried. They are then cut of the desired size, and a pair placed in the shoes every day. The feet are not colored by the potash. If there is any color, a thin coating of the white of egg, collodion, or tincture of benzoin may be used on the false soles.—*Bull. Gén. de Thérap.*, July 15, 1884.

TREATMENT OF CYSTITIS.—DR. WILLIAM GARDNER, Professor of Gynecology in McGill University, Montreal, in a lecture on cystitis (*Canada Medical and Surgical Journal*, June, 1884), spoke of the value of injections of nitrate of silver, as follows:

You will find, by most writers, solutions of one to two grains to the ounce recommended. This is far less valuable than a much stronger solution, thirty or forty grains to the ounce, of which I have had some recent very satisfactory experience. Such a solution causes severe pain and vesical tenesmus for a few minutes, and it is well to be prepared with your hypodermic syringe when administering it, which usually must be at the patient's own home. Confinement to bed for a day after is advisable. I may here mention a case I recently saw. The symptoms were of several years' duration, and came on after confinement. During nearly a year I had tried a variety of astringents, with only slight benefit, but my attention was directed, during the winter, to the stronger solutions of silver nitrate by an article in the PHILADELPHIA MEDICAL NEWS. I resolved to try the remedy. The results were most satisfactory. After two applications, the patient expressed herself as being better than for eight years. In this strength, the remedy ought not to be used oftener than once a week. Morphia has been injected to relieve severe pain. Solutions of one to two grains to the ounce may be employed.

DIAGNOSIS OF PERONEO-TIBIAL SPRAIN.—A case recently occurred in the service of M. Labbe, at the Beaujon Hospital, which well illustrated the difficulties sometimes encountered in the diagnosis between sprain at the ankle-joint and fracture of the fibula. There are four traumatic lesions which are usually found in this locality; 1. Tibio-tarsal sprain, properly so called, and, perhaps, the most rare; 2. Medio-tarsal sprain—these two varieties are easily distinguished from each other; but great difficulty is sometimes encountered in differentially diagnosticating 3—Peroneo-tibial sprain, or distention of the ligament which unites the tibia with the fibula—from 4. Fracture, with tearing of the external malleolus. In order not to fall into an error which would be decidedly disadvantageous to the patient, it should be noticed that in peroneo-tibial sprain the ecchymosis is seen a little in front of the anterior border of the fibula, while in separation of the external malleolus it is behind the bone, in the depression which separates it from the tendo Achillis. With regard to the pain, in the case of fracture it is seated immediately over the bone itself; but in the case of the sprain, the greatest pain is found in front of the anterior border of the bone. It is in these cases that the elastic bandage has such excellent effects.—*Revue de Thérap.*, July 15, 1884.

THUYA OCCIDENTALIS IN CANCER OF THE UTERUS.—The tincture of thuya occidentalis has been praised at different times as an efficacious remedy for rebellious condylomata, venereal growths, etc. It has also given excellent results in cases of simple chancre.

Four years ago, J. CHERON, who had used the drug for a long time, was particularly struck by an inaugural *Thèse* by M. J. Menier. The treatment of vegetations by the internal administration of thuya occidentalis had given results which in his hands were absolutely conclusive. Cheron repeated Menier's experiments, and though he did not get such remarkable results, the curative action of the tincture in vegetations was equally well demonstrated. He found that vegetations covered with epidermis, especially those which have a semicorneal consistence, are not affected by the internal administration of thuya, so far as their disappearance is concerned; though they do diminish in size and consistence. Vegetations developed on mucous membranes, however, disappear completely when thuya is given internally; this has been abundantly shown in a great number of cases. In a word, the epithelial hyperplasias of the vegetations yield to the internal employment of thuya, while the epidermic hyperplasias do not. As regards the use of thuya in epithelioma of the cervix, Cheron's experience with it, which has extended over several years, leads him to say that in a certain number of cases he uses the tincture internally only; in a second class he uses it externally only; and in the third class he uses it both externally and internally.—*Revue de Thérap.*, July 15, 1884.

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SATURDAY, AUGUST 16, 1884.

The interest felt in the sessions of the International Medical Congress has widely extended since the famous gathering in London in 1881, and the proceedings of the eighth meeting now being held in Copenhagen are as eagerly looked for by the profession in this country as by their European *confrères* in whose midst it is convened. It therefore affords us great satisfaction to be able to lay before our readers a full summary of the proceedings up to Thursday, received by special cable dispatch from our own correspondent.

The meeting gives every promise of being successful, both as regards the number and eminence of the members in attendance and the character of the scientific work done, and we note with pleasure the presence of a goodly representation from the United States.

Next week we hope to be able to inform our readers that the Congress has accepted the invitation, that was presented on behalf of the American Medical Association by a special committee, which was appointed at the Washington meeting in May last, to hold its next session in this country in 1887.

THE SURGERY OF PULMONARY CAVITIES.

Experience in the treatment of pulmonary pus-secreting cavities is very limited; but the past decade has shown, first, that in certain cases incision or paracentesis with drainage is unjustifiable; secondly, that in other cases one of these operations is imperatively demanded; and, thirdly, that there exist other cases in which the question of operative interference is not easy to decide.

The first group includes bronchiectatic cavities formed during the progress of pulmonary phthisis. The reported examples in which aspiration and the injection of medicated solutions, and incision with drainage have been resorted to, demonstrate that at the most nothing more than a palliative effect can be expected. In the majority of such cases the time has passed for doing any permanent good, and there is nothing in the operation to stay the resistless march of the disease, or prevent its extension to the adjacent lung-tissue.

In illustration of the truth of these statements, we may refer to papers read before the Congress of German Naturalists and Physicians, in 1873, by Mosler, of Greifswald, and before the American Medical Association, in 1880, by Pepper, of this city. In none of the cases was paracentesis with the injection of medicated fluids followed by positive results, nor was incision with free drainage more successful in the hands of Mosler. Thus, in one case in which the cavity was opened by an incision through the wall of the chest, the disease was found, on death a short time afterwards, to have spread to the neighboring lung-tissue, and to have produced general tuberculosis. In a second case, an external incision was made down to the pleura; the anterior wall of the cavity was carefully opened with a pair of forceps, the contents evacuated, and a canula inserted, through which various solutions were introduced, until the wound closed. Before the lapse of eight months, however, the patient was readmitted with all the signs of general tuberculosis, of which he died in six months.

The second group, or that in which interference is imperatively demanded, comprises suppurating echinococcus cysts, gangrene of the lung, and abscesses from ordinary causes. In a paper read before the Second Congress for Internal Medicine, at Wiesbaden, in 1883, Mosler exhibited a man, in whom, after a portion of the seventh rib had been resected, the sac was opened with the cautery, the parasites evacuated, and a drainage-tube inserted, through which antiseptic injections were made until the wound closed. He also referred to thirteen cases of a similar nature under his care, in which the great value of incision was apparent, and which will form the subject of a separate monograph. Fenger and Hollister, of Chicago, also had a recovery after incision of the lung and the extraction of an echinococcus cyst, which had caused an ichorous abscess. The report of the case may be found in the *American Journal of the Medical Sciences*, for October, 1881.

The first operation for gangrene of the lung was done by Lawson, of London, in 1879. Although the symptoms were ameliorated, the patient died of exhaustion on the fourth day. The second operation was performed in the same year, by S. C. Smith, of Halifax, and the subject lived for ten days.

The third operation was done by Vogt on a patient of Mosler, in 1882. The case was that of a boy of fourteen suffering from septic fever and expectorating large quantities of pus mixed with shreds of dead lung-tissue, which proceeded from a cavity in the upper left lobe. One inch and two-fifths of the third rib having been excised, the lung was opened with Paquelin's cautery, and the gangrenous portions of the walls of the cavity were cauterized as thoroughly as possible, and the cavity well washed out with a solution of salicylic acid. A pair of long forceps was then passed downwards and backwards until the point was felt about an inch and a half below the angle of the scapula, when an incision was made over it, and four-fifths of an inch of the eighth and ninth ribs removed. The forceps was now used as a guide for the cautery, and a large cavity was entered, from which about ten ounces of very fetid fluid with numerous shreds of necrosed lung-tissue ran out in a stream. The walls of the cavity having in their turn been cauterized, an elastic drainage-tube was inserted, and the cavities thoroughly disinfected. At the expiration of a week the patient was dead, apparently from the effects of thymol and boracic acid, the application of which was followed by inflammation of the bronchial tubes, trachea, and larynx.

The fourth case of operation for gangrene is thus recorded by Mosler: "Under similar circumstances, Ed. Bull, of Christiania, attained a favorable termination. In a girl aged twenty-three, who suffered from putrid bronchitis, he succeeded in healing a gangrenous cavity by the operative treatment. In his case the cavity was likewise situated in the left lung."

The fifth case has recently been reported by Dr. Cayley to the Royal Medical and Chirurgical Society, and is recorded in the *British Medical Journal* for May 31, 1884. The patient was a girl of twelve who had gangrene of the base of the left lung, with pyæmic abscess secondary to suppuration of the mastoid cells. Mr. Gould punctured the lung with a large sized trocar and inserted a drainage-tube, through which fetid pus and a shred of necrosed lung were discharged. The child left the hospital cured eleven days subsequently.

The sixth and last case of which we have any knowledge has just been recorded by Fenger, in the *Journal of the American Medical Association* for July 19, 1884. A cavity in the right inframammary region having been detected by an exploring needle, an inch and a half of the fifth rib was excised, and the lung penetrated with the thermocautery. The cavity was washed out with an antiseptic solution, and a drainage-tube inserted. The hemorrhage was trifling. The symptoms gradually improved; shreds of gangrenous tissue were discharged during convalescence; and the patient was out of his bed at the end of the fifth week.

In this group are also included abscesses resulting from the entrance of foreign bodies into the bronchial tubes. In the discussion which followed the reading of a paper before the Royal Medical and Chirurgical Society, by Mr. Biss, also published in the *British Medical Journal*, of May 31st, Mr. Fowler, narrated a case in which Mr. Marshall opened and drained the lung between the eighth and ninth ribs for an abscess formed around a molar-tooth which had slipped from the dentist's grasp into the lung. The tube was worn for five months, and at the expiration of a year there still remained mucopurulent expectoration, and other signs of a small cavity.

The third group comprises those cases in which the decision of the question of operation is attended with much difficulty. Thus in the case of Mr. Biss, Mr. Marshall incised the soft parts over the tenth intercostal space, passed a trocar to the depth of four inches, and inserted a drainage-tube through which puriform fluid escaped. In ten days, signs of a cerebral abscess appeared, and in another ten days the man died. The necropsy revealed a number of bronchiectatic cavities in the lung, the largest of which had been pierced and drained, along with two abscesses of the brain.

Two cases of a similar nature are recorded by E. Bull in the *Nord. Med. Arkiv.*, Bd. xiv. No. 26, and Bd. xv. No. 17. In the first, an incision carried along the upper border of the second rib opened a superficial cavern in the upper lobe of the left lung, into which a drainage-tube was passed. At death, on the seventh day, a cavern as large as a goose egg was found in the lung, which was the seat of cheesy pneumonia, along with seropurulent pleuritis and pneumothorax. In the second case a large bronchiectatic abscess was opened, partly with the knife and partly with the thermocautery, in the right ninth intercostal space. On death from exhaustion in four weeks, in addition to the large cavity, the lobes were found to be the seat of numerous bronchiectases.

A fourth case has recently been recorded by Lauenstein in the *Centralblatt für Chirurgie*, No. 18, 1884. One inch and a half of the second rib having been resected, a trocar was passed into a cavity in the apex of the right lung, the passage enlarged with a pair of forceps, and a drainage-tube inserted. The patient was discharged in forty-five days, and was perfectly well one year subsequently.

In bronchiectatic cavities the result of pneumonia, the great obstacle to operative interference is the difficulty in making the diagnosis between a single large cavity and multiple small cavities. Indeed, with all of the physical signs present, it may not be possible to reach the cavern, as happened to Mr. Godlee in three instances. If, however, the disease be limited to a single abscess, as happened in the first case of Bull, and in that of Lauenstein, it would certainly be right to open and drain it. For this purpose, after a preliminary incision down to the pleura, a large trocar and canula would be preferable to the knife, on account of the diminished risk of hemorrhage.

A review of the facts here presented offers not a little encouragement for the future of lung surgery. The wholesome maxim, "ubi pus, ibi evacua," is just as applicable to the lung, as it is to the brain, liver, spleen, or other organ; and we hold that the surgeon is open to the suspicion of timidity who fails to do his duty with suppurating pulmonary cavities, provided they result from other causes than tuberculosis.

DILATATION OF THE STOMACH.

AT a recent meeting of the Sociétê Medicale des Hôpitaux, M. BOUCHARD read a communication on the frequent occurrence of dilatation of the stomach and of the consequences of this morbid condition. He has observed two hundred and twenty cases of gastric dilatation, and his statistical researches have proved that thirty per cent. of sickly people are the subjects of this affection. Amongst patients treated for chronic maladies dilatation is found as frequently as sixty per cent. More often this distention is not revealed by any symptom except such as is revealed by physical examination of the organ in question. There are no digestive troubles in about a third of the number of cases. In the majority of cases the sign of dilatation is a "bruit de clapotement," a splashing sound when the gastric region is percussed below the level of a line which joins the navel to the lower border of the last left rib. To have any clinical significance, this sign must be observed in the morning when fasting or when the patient has had only a glass of water.

According to M. Bouchard, dilatation is the cause and not the consequence of dyspepsia. Gastric dilatation may lead to numerous troubles, of which the following are the principal: 1. Digestive disturbances, distention, eructations, acidity, fetid breath, constipation, mucous discharges, hemorrhoids. 2. Congestion and swelling of the liver, producing depression of the right kidney, which has been regarded by Bartels as primary. 3. Nervous disorders, consisting in headache, nightmare, migraine, vertigo, weakness of memory, loss of strength, priapism, hallucinations, palpitations, shortness of breath, post-sternal pain, angina pectoris, etc. 4. Alterations in the urine, which may contain urate sediments, sugar, albumen, and peptones. 5. Cutaneous eruptions. 6. Bronchitis, coryza, asthmatic attacks. 7. Cardiac lesions, purpura, and nodular rheumatism.

All these manifestations do not exist at once, but their existence, isolated or simultaneous, has allowed of a division of the malady into various forms: dyspeptic, enteric, hepatic, renal, cardiac, cutaneous, rheumatic, consumptive. The links which bind gastric dilatation to these various conditions are more difficult of demonstration

Dilatation of the stomach first hinders the elaboration of the food, thereby provoking unhealthy fermentations and multiplication of the figured elements in the stomach. Products of fermentation of the alimentary bodies are noxious and even, at times, toxic. It is the injurious action of these products on the economy which are the worst pathological consequences of dilatation of the stomach. M. Dujardin-Beaumetz, in discussing this paper, urged wisely that the splashing sound heard on percussion is, perhaps, hardly sufficient to diagnosticate dilatation.

THE PATHOGENIC MICROBES OF GONORRHŒA.

THE microbe of gonorrhœa was discovered in 1879 by Neisser, and was given the name of gonococcus—the seed of numerous production—and in a recent number of the *Nordiskt Medicinskt Arkiv*, DR. EDWARD WELANDER has an elaborate article, in which he concludes that they are characteristic of the disease.

The gonococcus is always found in groups, never in chaplets; it is seen in the interior as well as at the exterior of pus-cells, frequently in large groups upon the epithelium, and besides in a free state in the secretion. The proofs that they are the pathogenic microbes of blenorrhagia are, according to Welander, that he has found them in 129 cases of acute, and in 15 cases of chronic blennorrhagia in the male, and in the purulent urethral secretion of 49 females, while he has not found them in other secretions; in 25 cases of blennorrhagia in all of which the gonococcus was found, he ascertained the persons who communicated the disease, and in them too the gonococcus was present. Further, inoculation with secretions which did not contain the gonococcus gave negative results, while blennorrhagia followed those cases in which purulent matter containing the gonococcus was used. Still, the scientific proof is wanting, for the few culture-experiments that have been made are incomplete, or discredited; and so far the cultivation of the gonococcus has proved exceedingly difficult.

In the treatment various antimicrobic remedies have been tried, such as carbolic acid, corrosive sublimate, and iodoform, but the results have not been satisfactory. Welander regards an abortive treatment during the first two or three days as quite proper, and his method is first to cleanse thoroughly the anterior portion of the urethra, chiefly the navicular fossa, with cotton and forceps, thus removing a quantity of epithelial cells with the gonococcus in or upon them, and then cauterize with a solution of nitrate of silver.

So far, it seems that the discovery of the gonococcus has not helped the treatment of blennorrhagia; but it certainly is a great gain to be able to say positively when the contagiousness of the disease has ceased, and when, for example, a man may enter married life safe from the danger of communicating disease to his wife, and thus making her suffer for his sins, giving her not only different forms of intrapelvic inflammation, but, according to Dr. Noeggerath's views, making her sterile. In medico-legal cases the discovery may prove of the greatest importance. Thus in cases of leucorrhœa in children, against whom it has been charged that rape had been attempted, and disease thereby communicated, the absence of the gonococcus in the vulval or vaginal discharge would at once disprove the charge.

As an incidental practical point, Welander suggests that the oculist may be enabled, by determining the presence or the absence of the gonococcus, to ascertain the nature of a purulent inflammation of the conjunctiva.

TREPHINING IN TRAUMATIC EPILEPSY.

FROM a paper read before the American Surgical Association at its recent meeting, and published in *The American Practitioner* for July, by DR. W. T. BRIGGS, of Nashville, we learn that that accomplished surgeon has obtained the most brilliant results from trephining for epilepsy arising from injuries of the head. Of his 30 cases, 25 were cured, 3 relieved, 1 was not benefited, and 1 died. The wounds were dressed after the open method for free drainage, and germicidal agents were not employed.

That these excellent results, as well as the low rate of mortality, are not, however, always attainable, is shown by an examination of a larger number of cases derived from the practice of many operators. Thus, Walsham has tabulated in *St. Bartholomew's Hospital Reports*, vol. xix., 130 examples of trephining for traumatic epilepsy, of which 75 were completely cured, 18 were improved, 7 were not benefited, and 30 died. It should be mentioned that one of Briggs's cases appears in the tables, but if we substitute for it a recent recovery by Warren, of Columbus, Ohio, we arrive at the following results: 160 cases have yielded 100 cures, 21 improvements, 7 failures, and 31 deaths.

It is doubtful whether the same ratio of complete recoveries, namely, 62.5 per cent., has ever been attained by internal medication; and as the death-rate—19.37 per cent.—is not excessive, it would appear that the procedure is eminently proper, especially if it be resorted to as early as possible after the fits have declared themselves.

SELF-INFECTION IN CHILDBED.

IT has been for some time generally held that so-called puerperal fever is either autogenetic or heterogenetic. But, if the disease depend upon a specific microbe, this classification can no longer be admitted; and, indeed, to suppose that the lying-in woman can create within herself a puerperal poison which, in its evolution, manifests the same symptoms as are shown when the infection obviously has an external source, and which communicates a like disease to other women, seems illogical.

Ahlfield, among others, has upheld recently the doctrine of self-infection, adducing cases of puerperal disease in which, as he believed, the patients were effectually guarded against all external infection. But DR. LEOPOLD LANDAU criticises, in a recent number of the *Archiv für Gynäkologie*, Ahlfeld's views, and shows that he is in error as to there being perfect protection in the cases referred to, from germs coming from the outside, and that these germs may reach the genital organs in spite of his antiseptic precautions. Landau believes that, in a therapeutic point, it is of the greatest importance that all hypotheses such as that of self-infection should be rejected, for injury will thereby be prevented.

OGSTON'S OPERATION FOR GENU VALGUM.

SUBCUTANEOUS division of the internal condyle of the femur for knockknee, has, according to the report made to the recent Surgical Congress at Berlin, by PARTSCH, been done thirty-four times at the Breslau Clinic, from 1878 to 1884. All recovered, despite the fact that the saw broke in one, and the fragment could not be extracted. Of the four patients in whom the record could be followed for at least three years, two were completely well without any deformity, while a light grade of genu valgum persisted in the others.

Partsch's views as to the superiority of this operation over Macewen's, met with warm opposition in the discussion which the reading of his paper elicited. Volkmann thought that it ought to be discarded, not only on account of the deaths which have occurred, but from the fact that the condyle occasionally fails to unite, that it is liable to give rise to deformity of the joint, and that opening of the joint is unnecessary when the curvature is seated between the shaft and epiphysis. In one of Lange's cases, there was so much interference with the subsequent growth, that the knee-joint was practically useless; while of five patients under the care of Mikulicz, two recovered with anchylosis.

SOCIETY PROCEEDINGS.

INTERNATIONAL MEDICAL CONGRESS.

Eighth Annual Session.

Held at Copenhagen, August 10th–16th, 1884.

Special Cable Dispatch from
Our Own Correspondent.

Copenhagen, August 14th. Pleasant weather has favored the gathering of the Eighth Session of the International Medical Congress, which was

FORMALLY OPENED

in this City on August 10th with imposing ceremonies. The event was graced by the presence of Their Majesties, the King and Queen of Denmark, and the King and Queen of Greece, and of the Danish Council of State, foreign ministers, and other State officials, who, decorated with numerous badges and orders, added to the brilliancy of the occasion.

The membership of the Congress is large, and the different countries are well represented. Upwards of

SEVENTEEN HUNDRED MEMBERS ARE REGISTERED,

including about three hundred and fifty delegates from Denmark, one hundred from Sweden, one hundred from Norway, and about eleven hundred and fifty from various other countries.

Professor P. L. Panum, Chairman of the Organizing Committee, delivered the following

INAUGURAL ADDRESS,

Sire, Your Royal Highnesses, Ladies, and Gentlemen: Having the honor assigned me to open the Eighth International Congress of the Medical Sciences, my first duty is to thank His Majesty, the King, in the name of my colleagues, for the favor which he has bestowed upon us by deigning to be the Patron of our Congress.

I have, at the same time, the honor of thanking all the royal family for giving us the honor of its presence at this inaugural meeting.

This patronage and this presence are for us the best auspices of a happy international reunion. May the Chief of this august family, which has reunited in harmony, by the most intimate and gracious ties, the different nationalities of Europe, be for us the symbol of the international principle which should characterize our science and our assembly! Let us hope that the members of our Congress will be united by sentiments as fraternal, and be elevated above the boundaries of special nationalities, as are the illustrious members of the Royal Family of Denmark! But that should not be difficult for us who are united in an aim so international as medical science. Is it not our object to combat the enemies of the whole human race; the diseases of man and the causes of those diseases? This noble aim should inspire us all with fraternal sentiments. I have still the duty of thanking, in the name of all my colleagues, the Ministers, the Representatives of the Chambers, the Magistrates, the representatives of our City, and all those of our citizens who have favored and protected our Congress, and given friendly assistance at this inaugural meeting.

To you, dear and learned colleagues of foreign countries, to you who have braved the fatigues and annoyances of a long voyage to assist and participate in this Congress, even despite the universal alarm caused by the cholera, to you I extend a cordial welcome, not only in the name of my colleagues, but also in the name of all my fellow-citizens.

I should, however, say that we have only accepted this honor with timidity, and not without hesitation. The brilliant and incomparable success of the Congress in London, the great efforts there made, the enormous resources of the greatest and richest city of the world, still further increased by those of the vast British empire—all this might well intimidate us.

I do not yet understand the motives of the resolution passed at the last Congress, in London, desiring that the next Congress be held in one of the capitals of the Scandinavian countries, either at Stockholm, Copenhagen, or Christiania; but I well know that my Danish, Swedish, and Norwegian colleagues have been highly sensible of the honor which the Committee of the London Congress did them in designating one of these cities as the place for holding the Congress.

Modesty would have prevented the Danes from disputing the preference for Stockholm, the capital of a larger country than ours, and whose situation is more picturesque than that of Copenhagen; but Stockholm could not accept this honor on account of temporary circumstances; and Christiania, fearing that her resources were insufficient, did not accept it.

The hesitations with which we were inspired by a sense of modesty, though well justified, disappeared, however, when the Committee of the London Congress expressed the formal desire that Copenhagen should be the place of meeting of the Eighth International Congress of the Medical Sciences. I suppose that preference was given to our city chiefly on account of its more central situation, and greater convenience of access for strangers of other countries than that of Stockholm and Christiania. The proposition of the London Committee was promptly accepted and cordially embraced by the physicians of Copenhagen, and everything which we thought possible has been done to assure the success of the Congress. But we know only too well that we have a thousand reasons for appealing to your indulgence.

It is then to the London Committee that we owe the honor of the selection of Copenhagen as the place of meeting for this Congress. I am happy to be able, in the name of my Danish colleagues, to address our personal thanks to the illustrious President of the London Committee, Sir James Paget, and to the eminent Secretary-General of that Committee, Sir William MacCormac, and to be able, in the name of all the members of our Congress, to express our great pleasure at seeing them here.

It would have been, however, without doubt imprudent for the Danish physicians to have accepted the Congress could we not have counted on the assistance of our colleagues of the other Scandinavian countries. But we were well assured of your assistance, dear colleagues of Sweden, Norway, and Finland. United to us by a common language which presents only very slight differences of dialect, we have already and for a long time worked together in the Congress of Scandinavian Physicians and Naturalists, and been collaborators in the same journals. In the name of the Danish physicians I thank you, dear colleagues from sister countries, you who have desired to give us your assistance in the work of organizing the different Sections, and you also who have come as members of the Congress. You are not strangers here, you are at home, and I am convinced that the visitors from other countries regard you as of us, because they fixed the place of meeting of the Congress with you as well as with us.

You also, dear and learned colleagues of other countries and languages, and of different nationalities, from Germany and from Austria as well as from France and Belgium, from England and North America, from Russia and Switzerland, from Holland and Italy, and from all the other countries of the two hemispheres, you are all equally welcome, from the East as from the West, from the South as from the North. You all come as allies, as combatants against our common enemies, which recognize no nationality, and you come bringing to the arsenal of science new arms which equally belong to all nations, and which will always remain the property of the whole human race.

Nationality counts for nothing in our science, and has nothing to do with our Congress. We are not here to discuss either national or political problems. On the contrary, any discussion of these subjects on this occasion would be entirely out of place. Every manifestation of national pride or of predilection for any particular nationality would be here offensive to others who equally have the right to be proud of their nation, and whose duty it is to love their country. It goes without saying that all of us will ever preserve these patriotic sentiments deep in our hearts.

It is necessary, however, to use a language belonging to one or the other of these nationalities, for the ancient language, the Latin, is to-day no longer practicable in our science. I would be happy, gentlemen, to be able to address you in all your languages at the same time; but, that not being possible, I admit that I have been much embarrassed to make a choice.

As a Dane, it would be more convenient for me to use the Danish language, but this language would not be understood by most of our visitors. It would be very easy for me to use the German language, in which I have taught my science for a number of years. But I think that on this occasion I should prefer the French language, because it would most probably be best understood by every one, because it is recognized in our country as the language of polite society, and finally because it has been chosen for the official language at most of the preceding Congresses.

At our Congress it is not necessary to use languages as flags of our nationality, but as signals by the aid of which men of different nations approach to exchange the treasures of science, and to ask or offer good-will.

As a symbol of a nationality, language should certainly be pure, and not tainted with errors of grammar or foreign pronunciation, but, as a means of clear understanding, grammar and pronunciation have only a real value in so far as they are necessary to express thought. It is of little importance to a ship whether the sails be white, red, black, or spotted, so long as they serve to drive forward the vessel.

You who have the happy privilege of using as your native language French, English, or German, you will without doubt have the goodness to excuse us for offences against the grammar of your idioms, and I hope that you yourselves will on some similar occasion have the modest privilege which we now claim for ourselves, of being willing to speak, in your tour, some foreign language, rendered necessary by these circumstances. But in any case, in speaking your mother-tongue, I hope, out of regard for others, you will have the kindness to speak slowly and distinctly; otherwise, those who use their own language will, perhaps, be less readily understood by those who speak a foreign language, whether well or badly.

I have made these remarks because I am convinced that the success of this Congress and of succeeding International Congresses will always depend on the harmony and organized coöperation of men of science from every country, of all nations and languages. Whatever reason different nations may have for warfare, they should ever be united as brothers in all that concerns the advancement of science, and combat the brute forces which are hostile to humanity, as well as the enemies of our science, who are fond of comparing it to the building of the Tower of Babel.

Gentlemen, the fabulous Tower of Babel was evidently something very different from our science, for it is, as you well know, of celestial origin. It has produced some immortal works, and is of use to all the world. It demands devoted and modest workers, while the frivolous ambition, the pride, the vanity, the egotism, the rivalry, of men and nations, have never produced anything but some Tower of Babel, soon destroyed by the same forces. Let us hope that the results of our Congress will be worthy of this reunion of the most distinguished physicians of our time, who in good will have come here to communicate to us the treasures of their observations and of their researches!

At the conclusion of Professor Panum's speech, brief

ADDRESSES IN RESPONSE

were made by Sir James Paget, of London; Professor Virchow, of Berlin; and Dr. Pasteur, of Paris.

The Congress then proceeded to effect a permanent organization, and elected the following

OFFICERS:

President.—Prof. P. L. Panum, of Copenhagen;

Secretary-General.—Prof. C. Lange, of Copenhagen; and the following

HONORARY PRESIDENTS:

Sir James Paget, Sir William Gull, and Sir William MacCormac, of London; Prof. Henry W. Acland, of Oxford; Sir Risdon Bennett, Sir Joseph Lister, Sir Spencer Wells, and Mr. John Eric Erichsen, of London; Dr. Eben Watson, of Glasgow; Prof. John Marshall, of London; Dr. John S. Billings, of Washington, D. C.; Prof. Austin Flint, of New York; Dr. Louis Pasteur and Prof. A. Verneuil, of Paris; Prof. Chauveau and Prof. Ollier, of Lyons; Prof. Jaccoud, Prof. Hardy, Prof. Ranvier, Prof. Cornil, and Prof. Trélat, of Paris; Prof. Lépine, of Lyons; Prof. Virchow, of Berlin; Prof. von Kölliker, of Würtzburg; Prof. Frerichs, of Berlin; Prof. Volkmann, of Halle; Prof. Esmarch, of Kiel; Prof. His, of Leipzig; Prof. Hensen and Prof. Flemming, of Kiel; Prof. Hirsch; Prof. Munk and Dr. Liebreich, of Berlin; Prof. von Liebermeister, of Tubingen; Prof. Tilanus, of Amsterdam; Prof. Rosenstein, of Leyden; Prof. Engelmann, of Utrecht; Dr. Reyher and Dr. Rauchfuss, of St. Petersburg; Prof. Tommasi-Crudeli, of Rome; Prof. Bottini, of Pavia; Dr. Crocq, of Brussels; Dr. Lombard, and Prof. Prevost, of Geneva; Dr. von Meyer, of Zürich; and Prof. Kolomnin, of St. Petersburg.

On the evening of the opening day, the President, Prof. Panum, entertained at dinner two hundred of the foreign members of the Congress. After the removal of the cloth, numerous toasts were proposed, in response to which speeches were made by Prof. Panum, Sir James Paget, Prof. Virchow, Dr. Pasteur, and others.

On the following day the fourteen Sections of the Congress were formally opened. They were largely attended, and a number of valuable papers were read.

In the afternoon the Congress met in general session, when Dr. Louis Pasteur delivered an address on

HYDROPHOBIA,

in which he fully discussed the subject of inoculation, and related his latest experiments on this subject.

At the conclusion of his address he was greeted with enthusiastic applause.

In the evening, the President of each Section entertained the members of his Section at dinner, thus enabling those interested in each specialty to meet one another socially, and constituting a very pleasant feature of the Congress.

On Tuesday, at the general meeting, Prof. Tommasi-Crudeli, of Rome, gave an address on

THE NATURAL PRODUCTION OF MALARIA, AND THE MEANS FOR MAKING MALARIAL COUNTRIES MORE HEALTHY.

Prof. A. Verneuil, of Paris, then delivered an address on

THE NEOPLASTIC DIATHESIS.

Dr. John S. Billings, U. S. A., on behalf of the Committee appointed by the American Medical Association, in a brief speech, then delivered to the Congress a formal

INVITATION TO HOLD ITS NEXT SESSION IN WASHINGTON.

The invitation was favorably received, and will probably be accepted. No other invitations were presented, but the cities of St. Petersburg and Berlin were suggested as eligible places for holding the meeting. The decision of the Congress was deferred until the final meeting on Saturday.

Wednesday was given up to an

EXCURSION TO ELSINORE,

an old and interesting seaport of Denmark, where is laid the scene of Shakespeare's "Hamlet," and to the beautiful Castle of Kronborg, overlooking the Sound. The members, with their ladies, embarked on three steamboats, and greatly enjoyed the sail, of about twenty-four miles, through the Sound. The excursion occupied the whole day, and constituted a very agreeable feature of the meeting.

Each morning upon the adjournment of the Sections the members of the Congress are entertained at luncheon.

A COMMITTEE OF DANISH LADIES

are constant in their attentions to the ladies accompanying the members of the Congress, and private hospitality is unbounded. Numerous excursions, by land and water, are upon the programme.

The meeting is universally pronounced a brilliant success, and the members are highly gratified at the cordial and hospitable manner in which they are received and entertained.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, August 4, 1884.

The President, D. A. K. Steele, M.D., in the Chair.

(Specially reported for The Medical News.)

Dr. J. H. Etheridge read a graphic historical account of

THE TREATMENT OF CHOLERA.

Phosphorus was extensively employed before this century. Sixty years ago calomel, opium, and venesection were the important therapeutic agents. James Johnson, in his classical work on *Tropical Diseases*, published in 1824, says, "Start the bile, then support the powers of life." In the epidemics of 1826–27, the new remedies were carbonic acid, hydrocyanic acid, nitro-muriatic acid, chloride of gold, chloride of sodium, oxygen, arnica, buchu, purgatives, boiling hot water, cold water, counter-irritants, actual cautery, and chlorine. The epidemic of 1832–34 was a terrible one, and the list of therapeutic agents is long. Acids of all kinds, alkalies, albumen, bandaging, hot-air and sand baths, vapor baths, belladonna, bile, tobacco, sulphate of copper, coffee, electricity, horseradish, transfusion, the injection into the bladder of medicated solutions, were employed in the treatment of the disease. An infusion of horseradish, calomel, and opium gained much reputation. Ice-water, intravenous injections of salines, iron, juniper-berry oil, lead, lime-water, intravenous injections of milk, alcohol, turpentine, strychnia, the ligature of the extremities, croton oil, abdominal tourniquet, are also mentioned.

In 1848, anæsthetics, arsenic, camphor, capsicum, carbon disulphide, gum powder, hydrotherapy, *Perkins's tractors*, and ergot, were, in turn, remedial agents. In 1854, alcohol, chloride of calcium, eupatorium, garlic, potassium permanganate, quassia, sugar, *vaccination*, and *hard cider* were popular remedies. It was during this epidemic that B. W. Richardson, of London, advised the injection of water into the peritoneal cavity. About this time the nervous system began to receive attention from pathologists, and nervines were introduced. Nitrite of amyl, calabar bean, coca, spinal ice-bags, hypodermic injection of water, and the dosimetric system received the attention of the profession.

In 1873, sulphurous acid, antimony, chlor-alum, were added to the list.

DR. J. N. DANFORTH then discussed

THE PATHOLOGY OF CHOLERA.

He said that every organ of the body was more or less affected, but that pathologico-anatomical changes in the blood, intestinal walls, and kidneys were the three uniform lesions. The blood was thickened—sometimes to currant-jelly consistence—and contained microbes.

The intestinal villi were deprived of their epithelial covering, and Peyer's glands were enlarged. In the alvine discharges he had found, in 1873, epithelial cells, pus, blood, and microbes. Ziegler, Cornil and Ranvier, and Labarre (?) deny the existence of these epithelial cells in *ante-mortem* discharges. The arteries supplying the intestines were constricted, while the veins were greatly distended. The intestinal walls were, therefore, in a state of intense passive congestion. The kidneys presented the changes characteristic of acute fatty degeneration. The cortical glandular cells exhibited the fatty metamorphosis first. He agreed with Ziegler, Cornil and Ranvier, and Labarre (?) that the etiological relationship of Koch's microbe was not established. Dr. Danforth's remarks were well illustrated by drawings.

DR. W. T. BELFIELD was called upon for information in relation to

THE GERM-THEORY OF CHOLERA.

He said that Dr. Robert Koch had found in the intestinal walls of cholora patients in India and Egypt a microbe recognizable by its size, form, and reaction to staining fluids. This microbe had not been found in any other tissue or organ. The constant association of this microbe with cholera was established. Its causal relationship was not proved. Koch had failed to produce cholera in dogs, rabbits, cats, and white rats, by the inoculation of the cultivated bacillus. He had seen the microbes in a rapidly multiplying condition in the intestinal walls. Until human animals were placed at the experimenter's disposal, Dr. Belfield was of the opinion that positive evidence as to the *rôle* played by the cholera bacillus would be lacking. In anthrax the etiological relationship of the anthrax bacillus had been clearly proved. In no other affection had the inoculation of cultivated bacilli produced the respective disease.

As regards the natural history of Koch's cholera microbe, it flourishes in alkaline solutions of a low degree of saturation, while acid liquids are not tolerated. It must be remembered that choleraic discharges are usually alkaline.

DR. JOHN BARTLETT, a member of the committee of three appointed, in 1873, to investigate the pathology of cholera, made some interesting remarks with reference to the *rôle* of the cholera bacillus. In 1874 he was engaged in experiments with "Saulsbury's ague fungus." He had observed a fungus—a cell—in a developing fluid, aggregate about itself a crystalline body, tangible and in quantities—bearing the relationship to the fungus that coral bears to the coral insect. This crystalline body in time put forth buds, which were of a green color. Presently, from these green buds, a clear protoplasmic mass was developed, which gave origin to cells, each one of which resembled the cell observed in the first place. May there not be some stage in the development of the cholera microbe, when it is invisible, and at the same time functionally active?

DR. CHARLES GILMAN SMITH made an able speech on

THE PROPHYLAXIS OF CHOLERA.

He believed that the disease was highly contagious, and was accordingly surprised to hear a woman with the experience of Florence Nightingale, pronounce against the theory. The epidemic of 1854, which he had witnessed, furnished evidence sufficient to convince him that the disease was contagious, and that it was propagated by the decomposed dejecta of cholera patients. Without denying the possibility of its origin *de novo*, he knew of no recorded cases of such character. The disease, once developed, follows the lines of travel. This theory was sustained by the fact that cholera was unknown in Australia. A thorough quarantine of ships and railroads should be instituted. Of the effectiveness of a thorough quarantine he had no doubt. In the last epidemic there was a cholera focus at Butterfield and Thirtieth Streets in Chicago. The vigorous measures taken in removing the inhabitants and purifying the premises had stamped out the disease.

As bearing upon the question of prophylaxis, a letter from DR. JOHN H. RAUCH, Secretary of the State Board of Health, was read, of which the following extract is of interest:

The condition of the river, and especially of the South Fork, is a matter of the utmost importance to Chicago in the event of a cholera epidemic; and, indeed, at all times. Sixty thousand cubic feet per minute transferred from the river to the canal will keep the former clean and harmless; will prevent the possibility of pollution of the water supply at the crib; will affect sixty-six per cent. of the South Fork, and will so dilute the sewage as to make the canal unobjectionable to the communities along its banks. To secure this transfer requires two things:

1. That the pumps at Bridgeport be operated to their full capacity.
2. That the waters of the Desplaines River be prevented access to the South Fork through the Ogden Ditch.

If the Society can achieve this, it will render a most important service to Chicago, will help De Wolf in his arduous work, and earn the gratitude of one hundred and fifty miles of cities, towns, and hamlets along the canal and Illinois River.

Dr. N. S. Davis gave his experience in the epidemics of 1849, 1850–52–54, 1868, and 1873, on the

SYMPTOMATOLOGY AND TREATMENT OF CHOLERA.

Dr. Davis witnessed the epidemic of 1849 in New York City, and the others in Chicago. He did not believe in the germ-theory of the disease. In addition to an epidemic influence—whatever that might mean—there were three conditions necessary to cholera, viz., a high temperature, a soil in at least in a damp condition, and the presence of decomposing organic matter. He was sceptical as to the efficacy of any quarantine.

There was but one affection with which cholera could be confounded—cholera morbus. The differential diagnosis was usually not a difficult matter. In cholera, except in the height of an epidemic, there is a premonitory, painless diarrhœa, lasting from a few hours to several days. Accompanying this diarrhœa is a feeling of lassitude, weakness, general *malaise*. In cholera morbus there is no premonitory diarrhœa, but vomiting and purging occur at once, with great intestinal pain. Following the premonitory diarrhœa, in cholera, the patient complains of dizziness, and prickling sensations over the skin surface, and particularly in the extremities. Soon the patient vomits the stomachic contents; then he discharges by the mouth and anus the characteristic rice-water evacuations of cholera. After the first up and down movement, paroxysms of vomiting and purging recur every ten or twenty minutes. The amount of this choleraic discharge is very variable, but may measure half a gallon at a time. If set aside in a glass vessel flocculi settle to the bottom of the vessel, and the turbid, supernatant fluid becomes clearer. This fluid is composed of the serous elements of the blood, epithelial scales, and bacteria. In a fatal case, the patient now literally withers; symptoms of intense, acute anæmia supervene; the skin surface is alternately bathed with cold perspiration and shrivelled up. The eyeballs shrink back into their sockets; the finger-nails are blue, the lips pallid; the tip of the nose is cold like a dog's; the breath is distinctly cool. Intensely painful cramps are felt and seen in all voluntary muscles. The muscles of the calves, thighs, and upper extremities are seized first. The tongue is colorless, and the voice husky. The urine is entirely suppressed at an early stage of the disease.

In the height of an epidemic, the disease may run its course with frightful rapidity. In the epidemic of 1854, he had under his care a strong, healthy Scandinavian who, without any premonitory diarrhœa, was seized with serous vomiting and purging, and died three or four hours after the onset of the attack.

In cholera morbus, there is not this *ensemble* of the symptoms of acute anæmia, and the glandular secretions are not suppressed.

As regards treatment, he had few suggestions to make. In the premonitory stage, put the patient to bed at once—*when he is taken*—and treat as cholera morbus with the usual remedies when the patient commences to discharge by mouth and anus. Wait until the patient has become so exhausted by vomiting and purging that he can retch no longer, then put on the back of his tongue a powder containing one grain of calomel, one-sixth grain of morphia, and four or five grains of white sugar. He impressed upon his hearers the importance of doing this quickly, and said it was folly to wait for stated periods to give medicines in such cases, for the chances were that a dose would be given first on the recurrence of the vomiting, and, therefore, no good would come. As an enema, he gave ten grains of acetate of lead and one-half grain of morphia, in two ounces of water, directly after a paroxysm of purging. Apply dry heat to the extremities; sinapisms alternately to belly and back. After reaction has occurred, give dilute solution of table salt and small quantities of coffee and milk.

The cramps were best treated by firm compression. Rubbing was of less value. When vomiting ceased, he had been in the habit of giving, since 1849, small doses of the following mixture:

℞.—Carbolic acid, ...	gr. ¼.
Tr. gelsemii, ...	♏v.
Paregoric, ...	fʒ⅓.
Water, ...	to f℥j.—M.

The thanks of the Society were tendered the venerable head of Mercy Hospital, and it was resolved to continue the discussion of the treatment of cholera at the meeting two weeks hence.

CORRESPONDENCE.

ETHERIZATION BY THE RECTUM.

To the Editor of The Medical News.

Sir: It has amused more than it has surprised me to find etherization by the rectum spoken of in many medical journals as a novelty. Your correspondent, J. C. R., in the number of The News for August 2, refers to several European writers who have described this method, beginning with Pirogoff, in 1847; but he has overlooked the description of it which appeared in each of the four editions of Stillé's *Therapeutics*, from 1860 to 1874.

The language there used is the following: "The method of Pirogoff, which consists of injecting the vapor of ether, and ether itself largely diluted with water, into the bowel, has been condemned by some who have used it, on the ground of its occasioning extreme flatulent distention of the abdomen. But many of those who have employed it to relieve painful internal maladies, such as neuralgia, spasm of the muscles of deglutition, lead colic, inflammatory pains of the joints, and cancer of the intestinal tube, report favorably of its anodyne and antispasmodic effects." The authority given for these statements is Canstatt's *Jahrbuch*, 1849, page 190. Æ.

THE USE OF THE OBSTETRICAL FORCEPS AS A SPECULUM.

To the Editor of THE MEDICAL NEWS.

SIR: The following extract from Blundell's *Principles and Practice of Obstetrics*, published in 1834, will be read with interest in connection with the valuable paper by Drs. Price and Faught in the last number of THE MEDICAL NEWS.

We wish only to suggest that in some cases the reduction of the fœtal head may be so great that the forceps will slip, so that while the instrument is useful in protecting the maternal parts from injury during perforation, after this has been done, it may be useless for the purpose of extraction:

"If the contraction of the pelvis be slight, and craniotomy be required, those who are in the habit of using long forceps will probably have first made trial of this powerful instrument before they have recourse to the destruction of the child; and, if it so happen that the long forceps is still applied to the head at a time when craniotomy is proposed, it will be better still to leave the instrument on the cranium, as its operation may afterwards facilitate both the operation itself and the subsequent abstraction of the fœtus."

Yours respectfully,
T. P.

PHILADELPHIA, August 2, 1884.

A CASE OF ALMOST COMPLETE ADIPOCERATOUS TRANSFORMATION.

To the Editor of THE MEDICAL NEWS.

SIR: In the latter part of April, I, with two local physicians, was requested to examine a recently exhumed body, supposed to be petrified.

On inspection, the coffin, with its enclosing box, was found to be well preserved. Opening these, we found the body of a large, portly woman, probably fifty years of age, whose death is said to have occurred in September, 1876, from diabetes mellitus. The exposed parts of the body were covered with a grayish mould, easily wiped away, disclosing the skin, which, in appearance, did not differ greatly from that of a recent corpse.

The features were perfect, with the exception of the eyes, which were deeply sunken, the ball being disorganized. Hands preserved, with the exception of slight decomposition around the roots of the nails. These were the only external evidences of decay.

No hair existed on the head at the time of death, but some short hairs on the lip were found to be firmly attached.

On attempting to remove the clothing, the cotton garments tore like wet paper; the silk dress was in a better state of preservation.

The entire body was well preserved, and in complexion similar to the face (no mould having formed under the clothing). On the breast were found suggestions of cadaveric lividity; also several ulcers, said to have existed for some time before death.

Immediate percussion over various parts of the body elicited a note not unlike that obtained by striking a plastered wall. Palpation over the soft parts gave an impression of cartilaginous resistance.

A portion of the abdominal wall was cut away (the resistance to the knife being about that of moderately dried soap), and was found of the thickness usual in fleshy persons, but converted into a mass of adipocere, as was also the fat which had loaded the omentum.

A portion of the intestines was outlined by a thin, friable membrane, and the liver was almost perfectly preserved, of a consistence somewhat firmer than normal, and of a *café-au-lait* color. Excepting this, no viscera were found, but the cavity contained a small quantity of fluid having an odor similar to that found in the abdomen of a pickled cadaver—as did the gas which escaped on making the first incision.

The thorax contained nothing but gas and a small quantity of *débris*, which appeared to be the remains of the heart. This cavity was opened by cutting through the sternum and ribs; no more resistance was offered to the knife by the bone than by any other tissue. In the section, the cancellous structure of the sternum and ribs, and structure of the cartilage could be demonstrated, but all were of the same waxy consistency.

At the request of the friends, the cranium was not opened, but a pin inserted in the frontal region appeared to pass through the external, but to be arrested by the internal table of the skull.

The place of first interment was on an island some miles down the river, hence was not visited, but was described as a small sandy knoll, surrounded by a marsh or swamp, which always contains water more or less charged with organic matter, while on the same island limestone is obtained. The coffin had the appearance of having been completely submerged, and when first seen was partially filled with a soapy-looking water.

CHARLES M. GANDY, M.D.,
Assistant Surgeon U. S. A.

FORT BRADY, SAULT DE ST. MARIE, MICH.,
July 26, 1884.

NEWS ITEMS.

CINCINNATI.

(From our Special Correspondent.)

THE HEALTH OF THE CITY during the entire summer has been exceptionally good. With the exception of the month of June, the rate of mortality has been below the average. There have been no epidemic outbreaks, and the ailments usually accompanying the heated term have not been of marked severity. Our Board of Health, which is in many ways peculiar, claims the credit of all this good fortune, as due chiefly to their excellent sanitary measures. To this, the able editor of a local journal objects, going so far as to assert the utter incompetence of the Board.

In reality, the Board of Health is a disgrace to the city, but not more so than the rest of our municipal government. And in view of the qualifications (?) of its members, there being not one medical man in it, the Board does very well. The Health Officer, who is the Board, is determined to occupy his office with credit, and is constantly urging the enforcement of sanitary measures throughout the city. If the cholera were verily in our midst the battle against it could not be more vigorous. The streets, although far from clean, are in better condition than they have been for several years, and the alleys are flushed out with an abundant supply of water, at frequent intervals; disinfectants are used in the garbage wagons, and a systematic inspection of premises is carried on by the officers of the Board.

One of the most commendable acts of the Board was the arrest and conviction, a few weeks since, of a professional abortionist. This case also served to illustrate the difficulties attending the conviction of such criminals, for although the guilt of the prisoner was unquestionable, it was proved with difficulty, and he escaped with a sentence which, for leniency, is a disgrace to civil justice.

YELLOW FEVER NOTES.—The total number of deaths from yellow fever at Havana for the week ending August 2d, as shown by the weekly report of Sanitary Inspector Burgess, was forty, a considerable increase over the week previous.

Consular sanitary reports from Mazatlan, Mexico, dated July 22d, state that the number of deaths from yellow fever at that port during the months of May, June, and July, were four, eight, and fourteen respectively; estimated population 16,000. The Board of Health of Mazatlan held a meeting July 19th, inviting the attendance of foreign consuls, merchants, and inhabitants generally, at which it was decided to continue issuing clean bills of health to vessels touching at that port, for the present, inasmuch as the deaths from yellow fever reported were all of unacclimated persons; that as yet no resident had been attacked, and the cases being isolated and few in number, in proportion to the population of the city, and not having taken an epidemic or general character, it was not deemed justifiable to issue foul bills of health. The consul adds that steamers touching there bound for United States ports, exercise such caution in communicating with the port as is consistent with the safety of the ship and her passengers. It is not believed that the state of health at Mexican ports between Guaymas and Acapulco is proportionately better.

The United States Sanitary Inspector at Nogales, Arizona, states that the Spanish Opera Troupe, which passed through that place and lost some of their number by yellow fever, were detained twenty-four hours and disinfected.

The schooner "J. Taylor," from Porto Bello, with three cases of fever, probably Chagres, arrived at Cape Charles Quarantine Station on the 12th inst., one death having occurred two days previous. The sick were removed to the U. S. Quarantine Station, Fisherman's Island, and the vessel permitted to pass up to the Baltimore quarantine, in accordance with previous understanding with the Health Commission of Baltimore.

THE BELLEVUE COLLEGE LABORATORY.—The authorities of Bellevue Hospital Medical College have filed plans for the new Carnegie Laboratory, which is to be built on the south side of Twenty-sixth Street, 75 feet east of First Avenue. The structure will be 50 feet square and five stories, or 70 feet, high. The cost is estimated at $50,000.

KOCH ON THE CHOLERA BACILLUS AND ON PASTEUR'S CRITICISM.—According to the *British Medical Journal* (August 2, 1884), Dr. Libbertz, of Frankfort-on-the-Main, who accompanied Dr. Koch to Toulon and Marseilles, published, during the week ending July 26th, a report of his experiences there, with the object "of correcting the numerous erroneous statements that have recently found their way into the columns of the daily press concerning the nature and propagation of cholera, and concerning the precautionary measures for the protection of individuals and the population at large." He sums up Dr. Koch's views in the following sentences: The spread of cholera is caused by personal contact, and not by goods and other objects, except damp infected linen. At the cholera congresses at Constantinople and Vienna, no case could be brought forward to oppose the accuracy of this view. The infective material is contained in the ejections, not in the urine, and not in the air we breathe. It is only efficacious in a moist state, dies when dry very speedily, and, therefore, cannot be transferred by the air. This explains why cholera bacilli have no permanency like those of small-pox. The latter are well known to form spores, a form of fructification of the greatest power of resistance. These spores can dry up for a long time, and become moist, and survive cold and heat; only a dry heat over 150° Cent., lasting for some hours, or a shorter process of steaming at 100° Cent., kills them. As above said, cholera bacilli do not possess the power of producing such lasting forms; they are known, by experience, to die after three hours' drying, and do not revive, as Pasteur strangely affirms, when again exposed to moisture. When Koch mentioned six days as the period after which objects that had been infected and then dried might be used again without risk, this was only to give a definite basis for practical purposes; he would have been just as well justified in naming one day. Pasteur's recent criticism, therefore, falls to the ground. Cholera is a disease which is confined to the digestive organs; cholera bacilli are not found in any other organs of the patient. It can only originate from the moist infective material forcing its way into the digestive channels. Contact with the patient is without danger, provided no contaminations take place likely to give infection from the digestive organs receiving some of the infectious matter. The following convey infection: infected drinking-water, infected water for washing and household purposes, infected moist and liquid articles of food. Amongst these, special stress must be laid on milk, and, above all, attention must be drawn to the power which dirty linen and the water it has been washed in have of conveying infection.

THE BROWN INSTITUTION.—MR. VICTOR HORSLEY, B.S., Assistant Professor of Pathology in University College, London, has just been elected Professor-Superintendent of the Brown Institution, to succeed Dr. Ray, who was recently transferred to Cambridge.

DECORATION OF DR. KOCH BY THE FRENCH GOVERNMENT.—It is announced that the French Government has bestowed the order of the *Legion d'Honneur* on Dr. Koch, in recognition of his services in the cholera district rendered during his short stay in France.

A STATUE TO DUMAS.—A committee has been organized to collect funds for the erection of a statue to Jean Baptiste Dumas, in Alais, his native place, with M. Pasteur as President, assisted by MM. J. Bertrand, F. de Lesseps, and Cauvet, with 59 national members, 29 foreign, and 15 men of letters.

DEATH OF SIR ERASMUS WILSON.—A cablegram from London, dated August 8th, announces the death of Sir Erasmus Wilson, LL.D., F.R.S., the well-known and prolific writer on dermatology, and late President of the Royal College of Surgeons of England.

Professor Wilson was born in 1809, became a member of the Royal College of Surgeons in 1831, Fellow in 1843, member of the Council in 1870, and President in 1881. He founded the Chair of Dermatology, and the Museum of Dermatology in the College of Surgeons in 1869, and was elected the first professor. He also founded a chair of pathology in the University of Aberdeen, and made munificent gifts to hospitals. He took a great interest in Egyptology, and it was entirely through his munificence that Cleopatra's Needle was transported from the borders of the Nile and erected on the Thames Embankment in London.

NOTES AND QUERIES.

BIDDING FOR STUDENTS.

To the Editor of THE MEDICAL NEWS.

SIR: In your issue of July 19, there is an editorial that animadverts in strong terms of disapprobation ' to a practice of a Baltimore medical college of sending out, with its catalogue, a circular inviting the physicians receiving it to recommend young men for admission on certain 'special privilege terms,' which are set forth in the catalogue." The editorial further states that the "privileged student is admitted for half the usual fees, which, without the reduction, are less than those of first-class medical schools," and declares that "such unlimited bidding can only have the effect of degrading medical education and lowering the institution which adopts it in the eyes of the better class of the profession," etc. Since a member of the faculty—but not the dean—of our neighbor, the University of Maryland, has pleaded "not guilty" to your indictment, it is presumed that you refer to the College of Physicians and Surgeons, and I, therefore, most respectfully request space in your valuable journal to reply in behalf of that institution.

When the College of Physicians and Surgeons was established in 1872, it had become a practice for even what you term "first-class" medical schools to accept a number of students, on what was called the "beneficiary" plan, at rates less than their regular fees, while nearly all the schools in the West and South put down their fees to a much smaller sum than that charged in northern schools, and in many cases even below the beneficiary fees of those schools. The College of Physicians and Surgeons of Baltimore followed the fashion of the times, and accepted students at the reduced rate. Having determined to do this, they also determined to do it in an open, honest, manly, and business-like way. They first enclosed in their catalogues printed slips, and finally postal cards, containing a form of application for beneficiary scholarship which medical preceptors could fill up, and return to the dean, with as little inconvenience or trouble as possible, and thus save a good deal of troublesome correspondence and delay. In sending out these printed forms, we did not and *do not* consider that we are indulging in "unlimited bidding" for students, because we regard our professional brethren as honorable gentlemen who will be guided by the specifications of our catalogue, and will only recommend such students as are properly qualified and are entitled to aid on account of their want of means. We solicit no one to avail themselves of this privilege; we only inform them *how* they can do it, and furnish them with the blank forms to save troublesome correspondence. If it is no shame to accept students at reduced rates—and even such eminently respectable and "first-class" schools as the medical departments of the Universities of New York and of Maryland, and many others equally "first class" (according to their fee bills) announce in their catalogues their willingness to do so—it surely can be no more disgraceful to let preceptors and students know how they can avail themselves of the offer. Nor do we think that in doing this we are "degrading medical education," for we believe that that can only be done by granting diplomas to persons who have not qualified themselves for the practice of medicine. This practice, the College of Physicians and Surgeons has sedulously avoided in the past, as it will in the future.

In regard to the question of fees, which by implication you make a test of respectability, I find that there are in the United States eleven regular medical schools whose fees are higher than those of the College of Physicians and Surgeons; four others whose fees are the same: *sixty-four* whose fees are less; and of these last, thirty have established their regular fees at a sum less than our "privilege" fee. Some of these, as the medical departments of the Universities of Iowa and Michigan, whose equipment, teaching corps, and financial backing ought to entitle them to rank as "first class," have merely nominal fees. (See Fourth Annual Report of the Illinois State Board of Health.) But, after all, the fees charged cannot be accepted as establishing the right of a school to a "first-class" standing; for some schools whose fees are nearly, if not quite, as high as the highest, have virtually no means for teaching medicine practically, while some others, whose charges are the lowest, are thoroughly equipped in this respect.

I know of but one standard by which a school can be rated, and that is the standard of education which it offers, and the means and equipment which it possesses to enable it to maintain that standard. If judged by this standard, the College of Physicians and Surgeons of Baltimore is quite willing to submit to candid criticism, and even comparison with any school in the United States. It always has been, and still is, ready to coöperate in any feasible way with other schools to elevate the standard of medical education.

I am, very respectfully yours,
THOMAS OPIE, M.D.,
Dean of College of Physicians and Surgeons,
Baltimore, Md.

August 9, 1884.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 29 TO AUGUST 11, 1884.

HEAD, JNO. F., *Colonel and Surgeon.*—Ordered to Portsmouth, N. H., to meet the Greely party, and consult upon the proper course of treatment, with a view to the entire restoration to health of Lieutenant Greely and the men of his command.—*Par. 14, S. O. 177, A. G. O.*, July 30, 1884.

WRIGHT, JOSEPH P., *Major and Surgeon.*—Sick leave of absence extended three months, on surgeon's certificate of disability.—*Par. 12, S. O. 176, A. G. O.*, July 29, 1884.

WOODWARD, JOSEPH J., *Major and Surgeon.*—Sick leave of absence extended six months.—*Par. 9, S. O. 178, A. G. O.*, July 31, 1884.

TAYLOR, A. W., *First Lieutenant and Assistant Surgeon.*—Ordered for temporary duty at Fort Riley, Kansas.—*Par. 1, S. O. 153, Headquarters Department of the Missouri*, July 29, 1884.

GANDY, C. M., *First Lieutenant and Assistant Surgeon.*—Granted leave of absence for one month, to commence between August 15 and 30—provided he furnish medical attendance at Fort Brady, Mich., during his absence.—*Par. 5, S. O. 154, Headquarters Department of the East*, July 30, 1884.

GIBSON, J. R., *Major and Surgeon.*—Granted leave of absence for one month and fifteen days.—*S. O. 36, Headquarters Division of the Atlantic*, August 4, 1884.

HEIZMANN, C. L., *Captain and Assistant Surgeon.*—Relieved from duty at Columbus Barracks, Ohio, and ordered for duty in Department of the East.—*Par. 2, S. O. 180, A. G. O.*, August 2, 1884.

MCCREERY, GEO., *First Lieutenant and Assistant Surgeon.*—Leave of absence extended two months.—*Par. 4, S. O. 180, A. G. O.*, August 2, 1884.

HOPKINS, W. E., *First Lieutenant and Assistant Surgeon.*—Granted one month's leave of absence, with permission to apply for one month's extension.—*Par. 1, S. O. 67, Headquarters Department of Arizona*, August 1, 1884.

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VOL. XLV. SATURDAY, AUGUST 23, 1884. NO. 8.

ORIGINAL LECTURES.

VERSIONS AND FLEXIONS OF THE UNIMPREGNATED UTERUS.

A Course of Lectures delivered before the Boerhaavian Society.

BY ELY VAN DE WARKER, M.D.,
OF SYRACUSE, N. Y.; FELLOW OF THE AMERICAN GYNECOLOGICAL SOCIETY.

LECTURE II.

PATHOLOGY.

PATHOLOGICAL conditions are here grouped about the three most marked types of versions and flexions: the developmental, the acquired forms, and these errors as they present themselves at the termination of the menstrual life. These are divisions which are well defined by their pathological traits.

In their pathological relations, versions and flexions are considered together. Many authors hold that the separation of these conditions is unimportant (Goupil, Veit, Martin, Simpson).

Malignant complications are omitted, as having no special value in defining the morbid relations of versions or flexions.

A. Condition of the uterus in the developmental form of versions and flexions.

This form may not necessarily present changes in texture that amount to pathological conditions. Tiedemann found in this form, in several instances, no traces of anomalous or diseased conditions in the structure of the uterus. Scanzoni found, in a young woman, the mucous membrane, the vessels, and connective tissue intact. In its simplest form, this group presents a diminutive size of the body and cervix, without change in the textural elements of the organ. In connection with atrophy of the uterus, an arrest in the development of the ovaries and tubes has been observed (Breschet). Hueter endeavors to explain this arrest of development by assuming that there is such a defect in blood supply by change in the position of the broad ligaments, that circulation in the body of the uterus is retarded, and growth consequently arrested. The error in position and the atrophy become, under this view, mutually reactive to perpetuate the flexion. This theory receives some support by the specimens noted by Tiedemann and Jahn, of lateral or oblique flexion, in which the affected side, contrasted with the other, appeared defective in its evolution, both in length and mass, the tube upon the flexed side being also situated lower than the opposite one. This explanation fails when we consider those cases in which the uterus and its annexes exhibit the same degree of defective evolution.

The distinction between atrophy and arrest of growth in normal evolution must be observed. The term atrophy, when properly used, infers a diminished size from a previous state of normal development. In the conditions just described, atrophy does not exist, the normal size in formative evolution never having been reached. Here the flexion and the associated defective size are co-results of common causes.

Atrophy, however, plays an important *rôle* in the pathology of the developmental flexions. We may properly apply the term to those forms of the uterus observed by Martin and Hueter, in which ante- and retroflexion in young women and sterile wives were found associated with a very slightly developed and exceedingly movable cervix uteri. The assumption is more natural that these were cases of atrophy rather than of asymmetry of development. Rokitansky and Klob have observed the smallness and flexibility of the cervix in multiparæ and sterile women, connected with unequal thickness of the walls of the uterine body, and which these authors regard as true atrophy; as is proved by the observation in a case of anteflexion, in which the posterior wall, by its excess in thickness over the anterior, tended to perpetuate the flexion. Sommer found in the cadaver an anteflexed uterus less than two inches long, and atrophied to such a degree that a small probe could not be passed, except by force, through the canal of the cervix. Jahn notes like cases. Atrophy has in some instances become extreme. Mende notices a case of flexion observed in a young woman, in which the uterus was wholly atrophied. Dance observed a case of retroflexion in which the cavity of the organ was considerably enlarged toward the fundus, while the walls were very thin. Instances of eccentric atrophy, such as this, are of rare occurrence, except as a result of senile atrophic processes.

B. The term acquired—used to define a group of flexions or versions, implies an antecedent normal condition of development, form, and position. It is admitted by all authors of repute, Sommer alone excepted, that flexions due to the formative period of sexual life are defined from those due to other causes by faulty or asymmetrical development. The causes are here coincident with the forces of sexual evolution.

The division of the acquired forms into ante- and retroversion and flexion is deemed unimportant in a review of the pathological conditions (Duval).

Pathological phenomena will be arranged under three divisions:

a. Condition of the uterine parenchyma.
b. Changes in the uterine cavity.
c. Condition of near parts.

a. In recent cases, changes in the uterine texture are not always observed. This is undoubtedly true of all cases of versions. If we regard a condition of version as (Emmet) primary to that of flexion, the former becomes the initial change—a pathological point of departure in uterine tissue-changes. A condition already referred to, under its normal and etiological relations, is the theory of Rokitansky of the submucous connective tissue, which that author believes to be the supporting framework of the uterus. This layer of firm connective filaments is supposed to lose its sustaining power, and thus allow the organ to fold upon itself

While it cannot be denied that this layer suffers in the general impairment of the uterus necessary to the existence of a flexion, yet that the initial pathological lesion is confined to this tissue, to the exclusion of the uterine parenchyma as a whole, must be objected to. If the uterus, from a fresh cadaver, is pared of its mucous and connective-tissue lining, it loses but little of its resistance and elasticity, which seem to reside in the firm and dense muscular tissue of the organ. Catarrhal states of the uterine mucous membrane, which hold an important etiological relation to flexions and versions, cause a looseness and softness of the connective-tissue layer; this is not, however, any more marked than tissue-changes throughout the organ. In an endeavor to deal with facts, Rokitansky's theory must be excluded.

A condition found nearly as constantly in acquired flexions as atrophy is in the developmental, is an enlargement of the organ. In multiparæ, Hueter remarks that a hypertrophy of the organ connected with a flexion characterizes the acquired form. This hypertrophy is generally associated with serious changes in the muscular substance of the uterine walls. Martin has noticed cases in which the parenchyma was so relaxed that the organ would bend upon itself, first in anteflexion and then in retroflexion. The antithesis of this condition is observed in those cases in which the uterine tissue is so firm that on replacing the organ it would instantly recoil to its flexed position. Relaxation of uterine tissue is not always general. The point at which this is most frequently observed is at the os internum. In the normal organ, this is the weakest part of its walls. Here the displacing forces exert the greatest strain—a sort of fulcrum upon which these forces exert their leverage. Relaxation of the walls at this point is of great pathological value in connection with rapidly acting causes. In cases of flexion following abortion or lying-in, the uterus is found enlarged, its walls softened, the cavity extended, the mucous membrane denuded—even the muscular substance laid bare; while the fatty metamorphosis and involution of the organ are in abeyance. Guerin states that where abortions hold this etiological relation to flexion, inflammation is the direct cause of changes in the parenchyma, or of arrest in the physiological restitution of the organ. But, in cases in which the inflammatory process has a narrower field—as in the non-puerperal uterus—it is a very constant condition. It is rare to find a case of acquired flexion in which the body of the uterus is not sensitive to the touch, be the wall hypertrophied or condensed. Kiwisch and Martin have found these displacements associated with endometritis quite generally. This is commonly found connected with the corporeal tenderness. Israel states that the origin of this inflammatory condition is to be sought in lesions after abortion or labor, or in circumscribed inflammations either in the uterus itself, or through the transplantation of the inflammation from the vagina to the neck. After such inflammatory processes, cicatricial thickening, with shortening in isolated groups of muscle-fibre, is observed; so that the opinion seems justifiable that, as in other organs in this condition deformities are produced, so in the uterus the same consequences may be anticipated. Guerin supports this theory by stating that from inflammation and resulting shortening of muscle-fascia, a permanent deformity may be caused.

Dr. Squarey believes that in the acute flexions, so called, the uterus gradually falls over into a flexed or verted position, owing to loss of tone in its tissues, the organ being too weak to uphold the fundus. There is no necessity to ascribe its position to pressure from above; the organ once being flexed, its size and atony are sufficient to keep the uterus in its abnormal position mechanically. In the fatal case of anteflexion of Dr. Walshe, recorded by Ashwell, the post-mortem examination showed the uterus soft, flabby, and yielding at the angle of flexion; the anterior and posterior walls were one inch thick. This accords with Hueter's idea of the walls in inflammatory hypertrophy. Rockwitz has noticed a similar condition in flexions following parturition. As already noticed in the lecture on etiology, Martin has traced various pathological conditions of the walls of the uterus leading to ante- and retroflexion, to subinvolution of the placental site. In these cases the inflammatory processes play an important part. The walls of the organ at the seat of placental insertion are thickened, spongy, and yielding; but it is necessary to conceive of the uterus generally having more or less of the same character, less, possibly, the thickening of a circumscribed area, in order to understand the manner in which a flexion could be a primary result. In these cases, if the relaxation of the organ is limited to a particular spot, flexion is preceded by version, the former supervening on a progressive impairment of the sustaining power of the uterine parenchyma. Notwithstanding the well-known ability of Martin as an observer, the matter is somewhat open to doubt, that the seat of the placenta, retaining, as it must, a lingering involution process under even normal conditions, has less to do with the production of flexion than a general impairment of the resisting power of the uterus. Many facts may be adduced to prove that the impaired tone of the uterus is general rather than confined to a single point. In old cases the submucous connective tissue at the os internum shows a marked degree of relaxation, but the whole uterine parenchyma is softer and less elastic, which is simply in a more evident condition at the flexed point. At this point yellow spots of fatty degeneration have been observed (Scanzoni, Tilt, Hodge). Hewitt has observed a loss of resistance and softness of the whole uterus in women who have suffered from chronic nutritive disturbance, leading to a pliability that results in flexion. In slight general relaxation of the walls of the uterus the encurvature shows itself as a folding or angular notch in the wall involved. Sommer has ventured the opinion that a pathological element of flexions is connected with a rheumatic condition of the uterine wall—a muscular rheumatism, in fact, which, in the absence of any demonstration that the muscular texture of the uterus is susceptible to the rheumatic inflammation, must be classed with the theory of another German writer that flexion is sometimes due to a condition of cramp or tonic spasm of the muscular fibres of the flexed wall. Connected with the hypertrophy of the uterus, Israel describes a condition of œdema of the walls which he ascribes to a condition of venous stasis of the parenchyma (Stauungshyperämie). The same condition he has noticed in versions, especially in a high degree of the displacement backwards, in which the fundus of the uterus, by pressing upon the venous plexus upon the posterior pelvic wall, caused an œdema of the lower uterine segment. It is doubtful if veins situated upon the posterior pelvic wall have a sufficiently close connection with the venous system of the uterus to cause a blood stasis and serum exudation into the connective tissue of the organ. It is probable that the observer mistook the softened hypertrophy of the neck for a state of œdema.

The hypertrophy of the uterus has two relations to the flexion and version of the organ, namely, an inflammatory hypertrophy, which holds a causative relation to the flexion, or is either developed, intensified, or perpetuated by the venous hyperæmia caused by the obstruction to the return of blood at the point of flexion (Hueter). But the venous stasis may be due to a more widely prevailing cause. According to Klob, the current of blood out of the uterine veins to the vena hypogastrica is interrupted, and, in consequence, the collateral hyperæmia produces oftentimes a considerable expansion of the plexus pampiniformis, since the blood cannot all flow through the spermatic vein. While this interruption of the circulation is of importance to the organs which lie near the uterus, yet the direct effect is more disastrous to the parenchyma of the uterus. In the first condition, that of stasis due to the angle of flexion, the uterine segment below the angle was the chief seat of venous hyperæmia, since the uterine cervix and body have, in a measure, separate or supplemental avenues of blood-escape. In the hyperæmia caused by tension of the broad ligaments and the connective-tissue supports of the uterus, the hyperæmia is general throughout the organ. While the uterus may suffer generally through its mass from the evil effects of the impeded circulation, yet the permanent result is not equally distributed through both walls. The flexed wall at the angle of displacement remains either stationary in thickness or slowly atrophies, while the opposite wall and the fundus undergo an interstitial hyperplasia that renders the displacement of the organ permanent.

Scanzoni graphically describes the condition of the uterine parenchyma and cavity. On section of the uterine walls, a livid and, many times, a dark-green color is observed, a condition which permits the conclusion that the interior of the uterine walls is in a state of chronic stasis and associated always with a more or less considerable volume and increase in the weight of the uterine body. Depending on the duration of the displacement, the walls of the uterus may be found either thick, stiff, and resistant, or the opposite—elastic, yielding, and loose, with the vessels turgid with blood; briefly, it shows the different stages in the development of tissue-changes in the so-called chronic corporeal metritis. The cavity of the uterus appears generally considerably enlarged; oftentimes it is filled with water-like, thin-flowing fluid, or a somewhat viscid, yellow or bloody mucus is observed. The contents of the organ are explained by Scanzoni as depending on catarrhal hypersecretion of the mucous membrane, and partly, that at the point of flexion the contact of the anterior and posterior walls of the cervix causes an arcuation of the canal, and prevents or retards the escape of the uterine secretion.

Hewitt and others speak of a marked induration, without atrophy, associated with chronic flexion. In this condition of the walls of the organ there is marked resistance to the replacement of the uterus by the sound, and the part quickly recoils to its dislocated position on the withdrawal of the replacing force. The indurated wall seems built up of hyperplastic tissue in its position of flexion, and thus resists powerfully any attempt to straighten or replace the uterus.

Rokitansky first called attention to the fact that in old women who have suffered for a long time with flexion, and who have borne many children, there is found, in the anterior periphery of the os internum, and embedded in the uterine substance, a large vein. Klob notices an instance in which this vein was 1.5 line in diameter. Martin explains this venous dilatation by the compression of the uterine vessels, resulting in increased blood pressure. This explanation removes this condition from its etiological relations, and places it among the results of long-continued flexion in an organ previously over-burdened by an excess of functional activity. Hueter, however, fancies that its relation to flexions is etiological, and by means of which the uterine parenchyma is compressed, and the uterus thus more easily flexed.

Atrophy, like hypertrophy, may not be a result of flexion or version long delayed. Martin speaks of it as one of the changes that take place rapidly, but mentions it as connected with a condensation of uterine tissue. This condensation is as frequently observed above as below the seat of the flexion. Without any attempt at explanation, Martin asserts that this condensation is observed above the seat of flexion, generally as a result of defective involution of the placental site after parturition with a flexion existing. That Martin makes any distinction between atrophy and condensation is disproved by a remark in the context of the above, in which he states that similar conditions are found below the point of flexion, although "it by no means always follows that the cervix is swollen; on the contrary, it is often flattened or compressed." The lower portion of the uterine neck is often considerably compressed and now and then elongated, particularly in cases in which granular erosion is at the same time existing (Huguier). The point of flexion in most cases does not always show tissue-changes; but, in cases of longer standing, the walls at this point become atrophied and show well-marked cells. In young women suffering from flexion while the muscular tissue, the vessels, and connective tissue appeared wholly intact, yet fatty particles were observed on a cross-section (Robin, Scanzoni, Virchow). Changes occur very early at the point of flexion in which the mucous membrane, apparently from compression, becomes white and fibrous, and the os internum surrounded with small cystic follicles at those points where the mucous membrane remained unconverted (Virchow, Martin). Hewitt regards atrophy at the seat of the flexion as a result rather than a cause of the uterine malformation. According to Virchow, the point of flexion on the wall involved becomes more atrophied as the muscular tissue disappears, until not a sign of connective tissue remains. Tilt states that the uterine parenchyma at the inner os becomes atrophied to a fold in old cases of flexion. West and Dumpe have verified the atrophy of the flexed point of the uterine wall, and the consequent shortening of that side of the organ. Rokitansky has noticed a growing together of the uterine cavity at the angle of flexion, associated with a scar-like contraction of the connective-tissue structure.

As a prelude to this adhesion, we have a close contact of the mucous surfaces at the seat of flexion intensified by the gradual atrophy of the uterine walls, by means of which adhesive inflammatory action is induced. Scanzoni found in the highly atrophied uterus of a young woman, who had never menstruated, an atresia at the seat of flexion. In one case the same observer found a stenosis, in consequence of which the region of the os internum was so narrowed that it was only by the employment of considerable force that a small silver sound could be introduced. So far as known, all cases of atresia and stenosis of the uterine canal at the flexed point are associated with atrophy and condensation of the uterus generally.

Scanzoni states that he has found the uterus at, and in the near neighborhood of, the flexion generally flattened antero-posteriorly. Virchow has noticed the same condition extending throughout the uterine neck. His explanation that this is due to pressure of the rectum distended by feces is hardly sufficient. If this were so, the condition is one that ought to be very commonly observed, instead of being usually associated with flexion. It is more rationally explained as the result of tissue-changes due to the embarrassed circulation of the organ, in which the resultant atrophy assumes an antero-posterior symmetry, the organ being originally flattened in that direction at the angle of flexion.

The condition of the vaginal portion of the cervix in versions and flexions gives rise to some difference of opinion. Martin states that from the flattening of the cervix, already described, the os externum becomes obstructed. So extreme may this become, that by preventing the escape of mucus from the canal of the neck that cavity may undergo a sack-like enlargement (Hueter). The condition of the os externum is usually described as patulous. This is supposed to be characteristic of the state of the uterine mouth in flexions. Scanzoni states that he has found the external os considerably open in those who have never borne children. Hueter says that he has been unable to make a verification of this. He has never found the os externum patulous except in multiparæ. Scanzoni explains this condition of the external orifice by the theory that the posterior wall in anteflexions, and the anterior wall in retroflexions, while enlarged and heavy, exert a traction over the cervix and draw the external mouth open. It is difficult to conceive of the cervical wall exerting any such power over the circular fibres of the external opening. Hueter's objection to the theory of Scanzoni, that the anterior and posterior lips are of equal thickness, does not always hold true. It is not unusual to find that in retroflexion the anterior lip and in anteflexion the posterior differ widely in thickness; this is a condition that typifies the atrophied state of the wall involved in the flexion. We may premise that this patulous state of the external opening is a characteristic of the acquired flexion, and never met with, except in the most exceptional way, in the developmental flexion. It is not a condition of atrophy, either general or partial, of the uterine walls. It may be explained by known conditions of the walls in acquired flexions. The patulous state of the os externum is rationally explained by, first, a general or partial relaxation of the muscular fibres; by interstitial hyperplasia of the labium of the uninvolved wall, in which the enlarged and relaxed parts find space for development by an increase of the periphery of the os externum; by an irregular fatty degeneration of isolated bundles of longitudinal muscle-fibres. The relaxation of the circular fibres of the vaginal portion of the cervix is sometimes nearly complete, as in the condition of ectropium (Roser) of the os, in which the mucous membrane of the cervical canal seems to be continuous with that of the vagina. A parturient accident that is very common, a laceration of one or both lateral walls of the vaginal portion of the cervix, is often found associated with flexions (generally retroflexion), and in this state of the cervix a more or less complete eversion of the external opening is observed.

The margins of the os externum are often in a state of granular ulceration (Heywood Smith). Papillary hypertrophy, and occasionally deep corroding ulcers, have been observed (Scanzoni, Rockwitz).

b. The condition of the uterine cavity in flexions and versions presents many uniformities. One of the most common conditions is that of catarrh of the mucous membrane. Seyfert has stated that he rarely observed a catarrhal state of the uterine lining in the dead subject (Hueter); but many of the minute pathological changes, that in the living might be expressed by hypersecretion, could easily escape detection in the cadaver. Rokitansky, as has been already noticed, regards a catarrhal condition as etiological, while Klob states that it may not always be a condition primary to the flexion. The following considerations render the idea of Klob a rational one. The catarrh may exist as an accumulation in the cavity of the organ, and as such may antedate the flexion; or, the catarrh not existing as a hypersecretion, but in consequence of pressure on the inner os, or from distortion of the uterine connection with the neighboring parts, causing a passive hyperæmia in the flexed part, which must develop a hypersecretion of the mucous membrane, and in both cases cause an expansion of the cavity.

An examination of the secretion of the uterine cavity is confirmative of the latter of the above conditions. The increased secretion is frequently observed to excoriate the vaginal portion of the uterus and the vulva, and sometimes quite a degree of vaginitis is noticed. An examination of the uterine secretion, taken from the os externum, under the microscope, shows a predominance of pavement epithelium in different degrees of degeneration, a fact which proves that the greater part of the discharge comes from the lower part of the uterine canal. Normal cells were rarely observed; the majority of the cells were in a more or less advanced stage of fatty degeneration, with granular particles interspersed. In many the cell membrane had vanished, leaving granular masses, in which the original contour of the cells was preserved. Among these elements cell nuclei, also in a state of degeneration, were observed, as well as pus cells and the débris of granular erosion of the os externum. The following figure, copied from one in Beizel's *Die Krankheiten des Weiblichen Geschlechts*, Bd. ii. p. 209, represents the discharge removed from the os externum of a retroflexed uterus.

Martin states that it is not rare to find in the tract of a flexion traces of recent or chronic inflammation of the mucous lining, such as red, rounded, or flattened granulations, which obstruct the opening of the os internum.

Friable and granular swelling of the mucous membrane may be seen throughout the cervical canal. As a result of the hypersecretion of the mucous follicles, their cavities become disintegrated and undergo a cystic generation—the so-called ovula Nabothi. These morbid processes in the mucous lining, added to contraction and compression at the seat of the stricture, occasionally result in such a contraction of the lumen of the canal that retention of menstrual discharge, mucus, and pus occurs. From this cause the uterine cavity has been observed enlarged (Hewitt). Scanzoni found, in a woman thirty years old, who had suffered from flexion, about two ounces of fluid and coagulated blood. Virchow has observed the mucous membrane, at the seat of flexion, degenerated into a white, fibrous layer, and the internal orifice surrounded with small cystic follicles. Martin has seen such a condition extending 2 cm. above and below the flexed point. This destruction is not limited to the mucous membrane, but the submucous connective-tissue stroma is sometimes exhausted (Rokitansky). In attempts to repair these lesions star-like contractions result.

These pathological changes are confined, in a great measure, to the acquired forms of flexion. In the developmental versions and flexions when pathological conditions, such as are here described, occur, they are generally sequelæ, and not primary to the uterine displacement. When these are observed in connection with the last-named group of flexions, the causative relation may be traced to retarded circulation and resulting hypostasis. In fact, many of the pathological phenomena described may be deemed sequelæ of flexions in general rather than antecedent conditions. The evidence that suggests this may be found in the fact, that acquired retroflexion is rare in nulliparæ, occurring only when, by reason of long-continued catarrh, the uterine texture has lost its resistance; anteversion takes place with an abnormally dense and swollen uterus, the antithesis of the former, while anteflexion occurs in multiparæ oftentimes with an absence of any marked pathological changes (Schrœder).

c. The conditions of near parts in cases of versions and flexions of the uterus are of great interest. Flexions are rarely found except in connection with other changes which are present, either in the ligaments, connective tissue, and vessels, or in the vagina, bladder, and rectum.

Pathological conditions of the ligaments of the uterus were described in the lecture on etiology; yet, these frequently bear a secondary relation to the change in position. An anteflexion associated with inflammatory shrinking of the lig. sacro-uterina might justly be assumed to be a result of the displacement, while the same condition in a retroposition of the uterus, with retroversion or flexion, could with equal justice be regarded as causative. The outer surfaces of the versed or flexed uterus are frequently the site of membranous exudations binding the uterus to its neighboring parts—the bladder or the rectum—and which are, without doubt, produced after the faulty position of the uterus was assumed. Martin describes a case which clearly shows this; in this example the posterior surface of the uterine body and the fundus were bound to the sacrum by pseudo-membrane, but also the forward wall of the uterus sent out membranous fibres to the bladder in front, and laterally to the lumbar vertebra. In other cases the remains of old inflammatory exudations and cicatricial swellings are found upon the peritoneum which covers the uterus. Martin coincides with Virchow in the opinion that the shrinkage of these pseudo-membranous fibres causes version of an otherwise healthy uterus, flexion being produced afterwards as the result of impairment of the uterine parenchyma.

What Martin regards as a rare complication of flexions is an approach and fixation of the isthmus uteri to the pubes, and which, he believes, depends upon a contraction of pubo-vesico-uterine ligaments. This shortening may depend upon either a pericystitis or a parametritis-coli, or on a resorption or suppuration of a hæmatoma, This observer has noticed an inclination of a flexed uterus to one side, due to the development of cysts or tumors in the tube or ovary, and to which the uterus has either contracted adhesions or been drawn from its median position by a shortening of the ligamentum ovarii. Generally, however, the inflammation and subsequent contraction of the exudate has been detected in the broad ligament, and the result is a latero-version with a retroflexion or version. Frequently versions and flexions are found connected with tumors either in the uterine wall or in near parts, the connection of which, by adhesive inflammation, is evident.

From pressure of the displaced fundus uteri, and from drawing or stretching of the peritoneum covering the uterus and near parts, slight local peritonitis is produced, with its attendant pseudo-membranous adhesions. Hueter states that it is not rare to find in the depths and expansions of the vesico- and recto-uterine folds traces of a previous inflammation in the shape of partially organized exudation masses of an elastic feel, livid, and sometimes of a dark-green color. Rockwitz says that he has found these adhesions so elastic that after the uterus was replaced the organ would recoil back to its original position of displacement with an evident jerk.

Now and then flexions or versions may be found associated with right or left latero-version, caused by shrinking of cellular tissue after inflammation and abscess. These pathological conditions have already been referred to in the lecture on etiology. Ludwig Joseph has reached the following generalization concerning the connection of the pathological conditions of near parts and of the uterine parenchyma with the different forms of flexion; thus, anteflexion, when not developmental, is frequently associated with perimetritic adhesions, while retroflexions depend generally upon relaxation of the uterine substance in consequence of defective puerperal involution.

The position of the rectum to the left has an influence on the direction of retroflexion. Klob has explained the general reflection of the uterus to the left in this displacement by an unequal length of the round ligaments; but Hueter advances the idea that during violent efforts at defecation the expulsive efforts of the abdominal muscles are concentrated around the rectum to the left, the uterus being also affected, undergoes a slight torsion movement in that direction.

The interruption of a free circulation through the pelvic venous system in versions and flexions is of importance to organs near the uterus. Varicose enlargements have been found in the hemorrhoidal and vesical veins, resulting in chronic catarrh of the rectum, bladder, and urethral mucous membrane. Hyperæmia and œdema of the ovaries have been observed (Klob). Chronic oöphoritis has been found associated with uterine flexions (C. Mayer, Hensley, Martin).

In long-standing cases of version and flexion the neighboring peritoneal pouches suffer essential changes, particularly the vesico-uterine and the recto-uterine folds. A case has been observed in which the uterus was pressed through the posterior vaginal wall as a hernia vaginalis (Martin). Manuel describes two cases of retroflexed uteri lying in the prolapsed recta; and another case in which the retroflexed organ had formed adhesions with the perforated rectal walls (Rokitansky). Hueter refers to a case in which retroflexion existed to such a high degree that the posterior vaginal wall was protruded into an invagination of the anterior rectal wall, and this, containing the uterus in a relaxed condition, was found out of the anus. A remarkable case of prolapsus uteri, complicated with retroflexion, has been recorded by Schott, in which there was perforation of the vagina at the posterior cul-de-sac (Hueter). Freund reports two cases of retroflexion of the uterus, in which the cervix passing upward compressed the ureters, and thus induced hydronephrosis. Bamburger reported a case that may help to clear up any error in observation on the part of Freund; this related to a retroflexed pregnant uterus at the fifth month, in which the organ compressed the ureters, and a fatal state of uremia ensued. Hueter believes that a considerable stretching of the uterine connections may lead to this pathological state.

C. Condition of the flexed or versed uterus at the climacteric period.

With the discontinuance of the menstrual process the blood-turgescence, which had been a leading trait of functional uterine life, vanishes, and with it a diminished supply of blood to the uterus. The result is a gradual atrophic condition of the parenchyma of the organ. So long as the external or internal os remains pervious the atrophy is concentric, that is, the uterus and its cavity appear proportionately reduced in size (Hueter). A continuance of the atrophic process may be observed in the muscular substratum, which appears thinner and more yielding. Senile marasmus, according to Klob, is total, the uterus is very small, ante- or retroflexed, and is oftentimes rough and granular to the touch. In the annexes the arteries may be seen in many places small and serpentine in their distribution. The subperitoneal arteries of the uterus become stiff and convoluted, and project upon the surface in hard prominences. On section the substance of the uterus appears pale-green or dark-red, and on a cross-section the stumps of arteries project as small, white points, thickened in their walls, and often calcareous. The mucous membrane is loose, thin, white, or in a condition of so-called atrophy of a deep-red color, which sometimes pervades the parenchyma. At other times it is seen studded with small cysts; and again, it is reduced down to a serous, shining stratum of connective tissue (Hueter).

The vaginal portion appears small and short, and even wholly disappears, so that upon the vaginal vault small folds reveal the external opening of the cervical canal.

Frequently the atrophy of the uterus exists in connection with fibroids, and in a few of these cases the place of the uterus is found occupied by the convolutions of a rounded, fibrous mass, and among them scarcely a trace of the muscular tissue of the uterus is to be found. The cavity has been observed to be wholly wanting, or is represented by a small cavity, found somewhere among the convolutions, filled with gelatinous mucus. The cervix may be normal or elongated. In the case of fibroids with calcareous degeneration, the uterus has been observed to be atrophied to a thin skin-like framework (Hueter).

When a condition of stenosis or atresia exists at the inner os, senile atrophy is eccentric, that is, the cavity of the uterus becomes enlarged and its walls thin. In this condition of the os internum the secretion of the uterus is either retained or obstructed in its discharge, and leads to a condition of hydrometra.

The stenosis or atresia of the inner os is oftentimes the result of mechanical causes, such as that due to close contact of the mucous surfaces at the point of flexion. Such a case is reported by Kiwisch, and observed by him in the cadaver. Virchow notes a case somewhat similar, in which an organic stricture existed at the os internum, as the result of inflammatory thickening of the mucous membrane (Hueter). According to Scanzoni, atresia at the internal orifice in flexions may be caused by senile atrophy or shrinking of the connective tissue, or in consequence of chronic catarrhal inflammation accompanied by erosion of the epithelium of the mucous membrane of the cervical cavity, so that complete adhesion of the surfaces in contact occurs. Scanzoni found, at the post-mortem examination of two old women, a high degree of flexion, accompanied by complete atresia at the point of flexion. One of these cases showed eccentric atrophy; the other, observed in a woman over seventy years of age, the quantity of accumulated mucus in the cavity of the uterus exceeded half an ounce.

The advance of senile atrophy is favored by the presence of chronic catarrhal inflammation. In consequence of this, mucous or cystic polypi may be found combined. Atrophy of the uterus has been noticed associated with that of the ovaries (Hueter). Klob states that in senile atrophy, with incomplete atresia, it is not unusual to find the uterine cavity enlarged to the size of a hazel-nut, and filled with a glue-like mucus. This is an instance of eccentric atrophy of the uterus, due to defective power of contractility in the uterine walls.

Atrophy of the walls of the organ result in consequence of the enlargement of the cavity through the accumulation of mucus, which is sometimes considerable. Kiwisch reported a case in which the uterine cavity contained two pounds of fluid. In considerable enlargement of the cavity the mucous membrane becomes thin and degenerated. Its soft, velvet-like feel is lost, and the membrane assumes the smooth and shining appearance of a serous coat. In the larger expansions of the cavity the mucous membrane is of a reticular structure at times, or is now and then reduced to a lamella of connective tissue, covered on its inner surface with cylindrical epithelium, which has, in nearly all cases, lost its cilia (Hueter). The glands of the mucous membrane are diseased from the beginning of hydrometra, with fatty degeneration of their epithelium, and end by producing gaps in the mucous lining of the organ. Cystic degeneration of the utricular glands has been noticed.

ORIGINAL ARTICLES.

ON THE PROGNOSTIC VALUE OF THE LOCAL MANIFESTATIONS OBSERVED IN TUBERCULOSIS OF THE LARYNX.[1]

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As the duration of chronic tuberculosis of the larynx varies within limits extending from six months or thereabouts to as many years or more, it would be desirable to ascertain whether there are not some lessons to be learned from its laryngoscopic study which will enable us to predict, with some degree of assurance, the probable period to which, in any individual instance, life may be prolonged. This is the inquiry proposed to the Section in this communication.

While it may be admitted that recovery takes place in some instances of tuberculous laryngitis, it remains doubtful whether there are any characteristic laryngoscopic manifestations which justify the prediction.

Those cases which have been shortest in their career, have appeared to me to have accompanied cases of pulmonary tuberculosis in which caseation has taken place rapidly. Although both the functional and the physical symptoms have sometimes become manifest in the larynx some weeks or some months before they have been detected in the lungs, there has been no reason to doubt that the involvement of the larynx has actually been secondary. The patients have lived for periods varying from six to eighteen months after the first onset of laryngeal symptoms.

The earliest laryngoscopic picture is one of congestive catarrhal laryngitis merely. Essentially uninfluenced by treatment, the picture commences to change in the course of a few weeks by the addition of one or more series of minute ulcerations of the mucous membrane; their site being upon the posterior surface of the upper portion of the epiglottis far more frequently than in any other locality. As the case is examined from day to day, or at intervals of a few days, it is seen that these ulcerations gradually extend in depth and in periphery; and when they are close together, two or more of them will coalesce. There is no pus on their surface. In some cases gradual intumescence of the epiglottis takes place, and in many of these instances similar swelling of the ventricular bands and of the vocal bands follow. In a few of them the same sort of swelling is seen to be going on in the interarytenoidal and in the aryteno-epiglottic folds. While the swelling is progressing, the ulceration continues to spread, so that the internal surface of the larynx may be eventually mapped out by irregular ragged ulcers, in some instances involving almost the entire circumference. This ulceration being in part suppurative, pus may be seen upon the surface. Excessive granulations, presenting the aspect of independent neoplasms, are sometimes developed around the edges and beds of some of these ulcers. Destructive ulceration of the epiglottis ensues in some instances, usually from above downwards, but exceptionally from the side toward the centre.

The prognostic differentiation of this series of pictures is indicated chiefly by the initial hyperæmia, the multiple ulcerations, upon the epiglottis especially, and the tumefaction in the anterior portions of the larynx, followed by progressive ulceration both tuberculous and suppurative. Ulceration limited to the epiglottis indicates unusual rapidity in the course of the disease. Ulceration limited to the interior indicates a more sluggish course. The rapidity with which the ulceration extends influences the prognosis proportionally.

A second series of cases live from two to four or more years after the involvement of the larynx. They appear to me to be cases of sluggish tuberculosis of the lung which has begun in localized pneumonitis. The involvement of the larynx does not take place until the disease has made considerable progress in the lung, often not until softening has occurred, or is about to begin.

The earliest characteristic laryngoscopic picture of these cases is one of pallid mucous membrane, in marked contrast to the congested mucous membrane of the first series. There are no early minute ulcerations as in the other series. As the larynx is inspected from time to time, its features are seen to be losing their marked outlines and to become more and more tumid. The sharp borders of the aryteno-epiglottic folds, of the edges of the ventricular bands and of the vocal bands, are seen to become thickened; and circumscribed tumefactions take place at those portions most abundantly supplied with lymphoid cells. This tumefaction is most frequent and most constant over the supra-arytenoid cartilages and within the aryteno-epiglottic folds. In many instances, however, it takes place within the interarytenoid fold, and in some instances in the epiglottis. The peculiar outlines of the supra-arytenoid cartilages become lost in the well-recognized characteristic pyriform tumefactions which taper along the aryteno-epiglottic folds, toward the epiglottis; while obliteration ensues of all lines of demarcation between the folds proper and the outlines of the cartilages. The tumefaction in the interarytenoid fold is usually diffuse; sometimes it is in a single hemispheroidal mass; less frequently it is acuminated; in either instance preventing approximation of the vocal bands.

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[1] Read for Dr. Cohen before the Laryngological Section of the International Medical Congress, Copenhagen, August, 1884.

In some instances the epiglottis becomes thickened to several times its normal dimensions, so that it fails to occlude the larynx in deglutition. Collateral œdema sometimes adds to the tumefaction in the aryteno-epiglottic folds and to that in the epiglottis. These tumefactions may continue, to the end, the sole laryngoscopic manifestations. In advanced cases, however, ulcerative processes, sometimes extensive, often take place in almost any portion of the interior of the larynx; even in those rare instances of subsidence of the pyriform swellings. When located posteriorly, they are indicative of a prolongation of the process. Occasionally, indeed, ulcerations of limited extent cicatrize temporarily or permanently, life remaining prolonged for several years.

The chief prognostic differentiation of this more prolonged form of the disease, resides in the pallor of the mucous membrane, and the subsequent circumscribed tumefactions at the posterior portion of the larynx.

It would be superfluous before this assemblage to detail the entire physical history of a tuberculous larynx. Without having anything new to offer, the object has been to invite a discussion as to whether the indications alluded to, or any others, are sufficiently distinctive to justify the predication of a prognosis as to the probable tenure of life in the early stages of any given case of tuberculous laryngitis; and whether the shortening of life in the first group of cases is simply due to innutrition following the dysphagia attendant upon disease of the epiglottis and the superior margin of the larynx, irrespective of the march and situation of the tuberculous processes. Reliable answers to questions as to the probable length of life in tuberculous laryngitis may be of great importance to the patient and to his family.

A STUDY OF INEBRIETY COMING FROM INJURIES OF THE HEAD AND BODY.[1]

BY T. D. CROTHERS, M.D.,
SUPERINTENDENT OF WALNUT LODGE, HARTFORD, CONN.

THE fact has only recently been recognized that injuries of the head and body are not unfrequently followed by profound and excessive use of alcohol. An outline history of such cases may be stated as follows: Persons who are previously temperate, or, if not total abstainers, are only moderate or occasional drinkers, will suffer from injury to the head, generally blows, fractures, concussions, or fracture of other bones of the body, contusions, wounds, or hemorrhage, and from this event, or immediately following convalescence, will begin to use opium or alcohol to great excess, falling rapidly into chronic conditions. Such persons are unable to give any reasons for their drinking, other than that they need spirits, and rarely ever make any effort to recover. A state of general paralysis of the will, and hopeless melancholy of the future, appears in most cases. In some cases spasmodic endeavors to be temperate are made, but generally fail, leaving the victim more prostrated and helpless than before. In some cases acute mania appears and they are placed in insane asylums, from which partial recovery follows, but from the time of discharge they relapse, using more spirits than ever. Dementia, general paralysis, or some acute disease soon follows, terminating in death.

In other cases a temporary subsidence of the drink-craving is marked by a total change of character and motive. Criminal and pauper tendencies come out prominently, and a disregard of duty and obligations to others, and a disposition to extreme selfishness and secretiveness, take the place of former opposite traits of character. Many such cases appear in courts, and the impression of the judge and jury is that their previous good conduct makes the present state more culpable and heinous. Both in jail and in insane asylums the so-called moral state of the victim obscures every other condition, and rarely, if ever, is any study made of his case. *The frequency of these cases can only be determined approximately*, because no study of them has been made. Dr. L. D. Mason, of the Inebriates' Home at Fort Hamilton, New York, in a general etiological study of six hundred cases, under treatment at that asylum, found that sixteen per cent. came directly from head injuries. Dr. Day, of Boston, in a study of two thousand cases under his care at the Washingtonian Home, found twenty per cent. traceable directly to injury of both head and body. In a history of over four hundred cases under treatment at Binghamton, New York, and at Walnut Lodge, in Hartford, Conn., which I have obtained, nineteen per cent. were clearly due to traumatism. This does not include those obscure cases of psychical traumatism which I have studied in detail, and published in the *Journal of Mental and Nervous Diseases*, and elsewhere, the frequency of which is not yet ascertained. So far, these are the only facts from which to infer the percentage of cases from this cause, that I am aware of.

This effort to trace some of the facts concerning the influence of traumatism as a cause of inebriety, I believe to be the first in literature. Forbes, Winslow, Bucknill, Maudsley, Brown, Watson, and many other eminent English authorities have mentioned such cases, and several continental writers have described them in connection with some form of insanity. But the general recognition of inebriety in medical literature is so vague and uncertain, that these cases have attracted no attention.

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[1] Read at the Annual Meeting of the Association for the Cure of Inebriates, at New York City, 1884.

I propose to group some of the facts which appear from the general history of the cases under my care coming from this cause. Unfortunately, the data are imperfect, and only include some general notes, which will become landmarks for further and more accurate study in the future.

Of the 67 cases of inebriety dating or beginning from injury, which I have recorded, the following statement represents the condition noted on admission to the asylum.

16 cases were periodical dipsomaniacs.

10 cases were irregular dipsomaniacs.

18 cases were periodical inebriates.

15 cases were irregular or steady inebriates depending on circumstances.

11 cases were irrregular, impulsive inebriates, with criminal tendencies, and without any conception of duty and obligation to others.

6 cases were of that exhausted anæmic class in which inebriety seemed but an accidental phase of profound degeneration.

Dipsomaniacs are distinguished from other cases by the maniacal impulse to procure spirits, which at the time is an irresistible mania, filling every impulse and thought of the mind. In periodical cases it begins after a certain distinct interval, and grows rapidly up to a certain point of intensity, then dies away abruptly. In irregular dipsomaniacs it appears and disappears with the greatest irregularity, but is marked by the same maniacal tendency and impetuosity.

These cases differ from the inebriate in the intense longing for alcohol, and nothing else; while the inebriate suffers from a form of psychical pain and agony that calls for relief from any source, no mattter what: anything to quiet the irritable, agitated nerve-centres. The dipsomaniacs are more clearly insane, and seem to have crossed the border-line of sanity; while the inebriate crosses and recrosses it with confusing uncertainty. The form of injury from which these cases began is of interest, and suggestive of the importance of further studies in this field.

Of the 16 cases of periodical dipsomaniacs, the injuries were as follows:

2 cases had lacerated wounds of the head, and fracture of the skull.

7 cases of concussion from falls and blows on the head.

1 gunshot wound of the face.

1 gunshot wound of shoulder.

2 severe lacerated wounds of the hand and arms.

1 of fracture of the femur.

2 crushed foot and leg.

Of the 10 cases of irregular dipsomania, the following appeared:

3 cases of blows on the head and concussion.

2 of wounds of the face.

1 shell wound of the femur.

1 gunshot wound of the knee-joint.

1 blow on the abdomen followed by peritonitis.

2 severe wounds of the extremities.

The injuries of the remaining cases were distributed as follows:

2 fractures of the bones of the head.

18 cases of blows on the head and concussion.

10 fractures of different bones with contusions and lacerations.

5 cases followed extensive flesh wounds from burns and injuries.

3 blows on the abdomen, with peritonitis.

3 from hemorrhage, coming from injury of the artery.

1 followed the successful operation of removal of stone from the bladder.

9 cases came from general injuries of the extremities.

I have examined the dipsomaniacs separately, because all experience so far seems to indicate that dipsomania follows more often from injuries than any other cause. In the case of the inebriate, the injury may be only one of many and complex causes, at present largely unknown. The history of these cases pointed out clearly the beginning of inebriety, or the excessive use of alcohol from the time of injury, or immediately after, so that the connection could not be mistaken. In all probability these injuries were severe, and attended with mental shock and profound exhaustion and constitutional changes at the time, although the history on this point is not accurate. *A study of the influence of heredity in these cases was of great interest.*

In twenty-six instances inebriate ancestors were traceable in both the parents and grandparents. The most frequent histories were those of inebriate fathers and grandfathers on the mother's side. In eighteen cases insanity, epilepsy, and hysteria were marked in the ancestors of two generations. In ten cases phthisis, rheumatism, and a history of general degeneration were noted in the parents. In the remaining cases no special heredity was marked, and in several instances the parents were of a very high order of intellect. In a number of cases the parents were evidently overworked and generally exhausted, and living lives of great irregularity. In twenty cases the fathers were brain-workers, and in ten instances they were men of leisure and idlers. In one case the grandfather and father began to drink at forty, and died from excesses a few years after. The son was temperate up to thirty-nine, when he began to drink, following concussion of the brain. In another family nearly all the male members had died of consumption at about forty-two years of age. The last member fractured his leg at forty, and drank to great excess during convalescence, and for five years after, until admitted to the asylum.

In another case, in which consumption had been prominent in every member, one of the family had a gunshot wound of the jaw, and became an inebriate immediately after. Six years later he spent four months in an asylum, recovered, and consumption and death followed soon after his discharge. These and other facts show that heredity was a large factor in the causation.

Another *inquiry as to habits of these cases previous to the injury and drinking*, brought out the following facts:

In thirty-one of these cases there was a history of moderate and occasional use of alcohol before the injury. It was clear in most of these cases that no marked excessive use of spirits had preceded the injury, and that the inebriety after was unusual and unaccountable. In twenty-one cases total abstinence from all spirits was claimed up to the outbreak of inebriety.

In the other cases the history bearing on this point was not clear, but at all events the inebriety following was distinct, and each one claimed that it began at a certain time dating from the injury. From a *grouping of facts bearing on the physical condition of these cases at the time of injury*, over half of them were evidently suffering from anæmia, exhaustion, and general debility at the date of injury. For instance, four were business men with great care and responsibility. Seven were overworked professional men, and many others were leading lives of much physical irregularity, and general neglect of all natural, healthy living.

It was clear from this that heredity, moderate drinking, general anæmia, and exhaustion, were very powerful factors in the causation. They had literally opened the door and prepared the ground for the development of inebriety or other neurosis. The injury was merely the explosion of a long train of causes that had been gathering in the past. The *progress of these cases* was more rapid, and the action of alcohol more profound. In most cases the toxic symptoms were prominent, the delirium and paralysis longer in duration, and all the phenomena more intense and active. The sudden onset of inebriety is always an indication of grave disturbance of the brain-centres, and the action of alcohol on these centres is soon followed by many indistinct forms of general paralysis. Psychical delirium and melancholy, with various complex physical and mental symptoms, merging into acute disease of different organs, appear with more or less regularity.

Cases which have no preparation of heredity, moderate drinking, or exhaustion, are less prominent, and follow a line more or less irregular and uncertain. The prognosis is better in these cases than in the other, and the sudden appearance of inebriety after some severe shock to the body indicates temporary failure of some central ganglion, which may recover after a time. The treatment varies with the case, but is all summed up in brain rest in circumstances the most favorable to build up and strengthen all parts of the body. This can only be successfully carried out in exact surroundings where all the functions and activities of life can be regulated and controlled. An asylum or hospital with every appliance of surroundings and service to this end is essential, and the time of treatment lengthened out to years will always give the best results.

An outline history of some of these cases will more clearly bring out the facts, and aid to further study.

It will be understood that all cases are not so distinct; that many present halts and obscure changes which, studied alone, are both vague and confusing, but, when seen higher up and collectively, are found to follow a distinct line from stage to stage.

They all correspond in beginning after some profound injury to the head or body. The following is a typical case of inebriety springing from traumatism direct.

A., merchant, thirty-four years of age; had always been a total abstainer; a man of position, family, and wealth. No heredity could be ascertained. Received a fracture of the skull from a falling box; was unconscious for a time, then recovered after a few weeks' rest and quiet in bed. No spirits were given, or suggestion of their use or value made, and yet suddenly he procured a quantity of brandy and drank to intoxication. He gave as the only reason that he wanted it, and must have it or die. In a short time periodical dipsomania appeared, and after three years of great excesses he came to the asylum. He recovered after four months' residence, but relapsed within a year, and died of cerebral hemorrhage. A state of abject helplessness, and failure to realize his condition, was prominent from the first.

Case II. was a bank clerk, forty years of age, strong, temperate, and a total abstainer. No heredity in the family. Was knocked down by a burglar and gagged, remaining unconscious for several hours. He suffered from a low fever for two weeks, then recovered, but brought home large quantities of spirits and drank to intoxication at night. He gave no reason for this conduct, but continued to drink every night, then developed into a dipsomaniac, and drank to great excess at times at night for five years. He then was admitted to the asylum, and finally disappeared after three months' residence. The opinion of his friends is that he relapsed and committed suicide.

Cases III. and IV. illustrate inebriety coming from injury, with a marked heredity.

B., a travelling salesman, thirty-four years of age, temperate, and hard-working. Father an inebriate, and mother died of consumption. Was a total abstainer from principle. Fractured his femur, and was laid up for four months. The next day after returning to work, he drank to great excess, and was a pronounced inebriate for many years. After two months' treatment he engaged in farming in the far west, and died a few months after from pneumonia.

C., a machinist, forty-eight years of age. A total abstainer, and a man of character and position. Father died of delirium tremens, and grandfather a periodical drunkard. Had his hand jammed so badly that amputation was necessary. He was confined to his room for three months, and all unexpectedly drank alcohol to intoxication. He became a periodical inebriate, and after some years of great excess was sent to an asylum, and recovered. Two years after he relapsed and is now in an insane asylum.

In the following cases a period of moderate drinking preceded the injury and inebriety:

D., a farmer, with no heredity of insanity or inebriety. Forty-two years of age, and well. Had drank spirits occasionally, but never to excess, using it only on special occasions, and with friends. He was thrown from a wagon, striking on his head, and suffered from concussion. Almost immediately he drank to great excess, and continued for two years, using it on every time and occasion. After an attack of delirium tremens he was brought to the asylum, but ran away in a few days, and finally died some months later from general excesses.

E., a lawyer and politician, was a moderate and occasional drinker, never using spirits to excess and prided himself on his ability to drink always in moderation. He was thirty-nine years old, and in apparent health, when he received a severe blow on the abdomen followed by peritonitis. After recovery he became a steady inebriate, drinking spirits to intoxication every day. A few weeks' asylum treatment was followed by relapse, and his final disappearance in the far west as a chronic case.

These cases are distinct and unmistakable in their origin, but not unfrequently cases appear in which a history of moderate drinking preceded the injury, and excessive use of spirits or inebriety followed one, two, or three months after.

When such cases are studied, it will be found that some entailment of the injury, or symptom of impaired health and vigor, has remained over from the injury, and finally, from some unknown causes, developed into inebriety; very much in the same way that insanity or epilepsy appears long after some head or body injury has been sustained, and can be traced to it. Many very important questions gather about this subject, which cannot be answered at present, until some general study of a large number of cases is made.

The following conclusions may be accepted as representing the facts so far established on this subject:

1. Inebriety takes its origin directly from traumatism, particularly head injuries, in a certain percentage of cases.
2. Such cases are prominent in the sudden outburst of the drink-craving, its precipitate character and intensity passing into chronic conditions at once.
3. Complex psychical and physical phenomena, pointing to a general profound state of degeneration of the brain and nerve-centres, are present in nearly all cases.
4. The progress of these cases is generally uniform and along a certain definite line, with but few changes or variations.
5. In the history, heredity, moderate drinking, and habits of irregularity are common factors preparing the way for the final developing of inebriety, growing out of the injury to the system.
6. The prognosis is always grave and the treatment of little use, unless it is adapted to each case and extends over a sufficiently long time to warrant a full restoration.
7. The pathology and psychology are unknown, but practically the surgeon should remember that a certain number of his cases who inherit some inebriate or insane neurosis, or are moderate users of spirits, are likely to develop inebriety from the slightest causes. Hence alcohol should be withheld as a medicine at this time.

LACERATION OF THE CERVIX UTERI DURING LABOR.

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THIS important question has received a good share of my time for several years. As a student and practitioner both in this country and in Britain, I have taken every care to gather information bearing upon it. The results of this work I shall now lay before the profession; and, in doing so, must express the hope that others, who have better facilities for the same line of research, shall avail themselves of their privileges, and make known their conclusions in due season.

In coming to any fixed opinion on a question like the one now under consideration, many circumstances require to be carefully weighed, and unless a due share of attention be given to each of these our efforts may not only be useless, but positively misleading and hurtful to the cause which it is intended they should further.

To begin with, all our attention ought not to be directed to the case of laceration of the cervix, as it occurs in the human female. The comparative study of the question will throw much light upon our path, and enable us to avoid, on the one hand, many dangerous errors; and, on the other, to arrive at not a few valuable truths. Then we must assign a proper share of attention to all the circumstances related to labor, as conducted under widely different conditions in the same race or class of persons; and again, as it occurs in different races and in different climates, and in these again as it is affected by very varying customs or fashions during the progress of parturition.

In the first place, I shall glance into the comparative side of the question. These observations were made on ewes, bitches, cats, cows, mares, and sows. In the case of the ewes, fifteen were examined, all having had lambs on one or more occasions. The cervix in all of these was healthy and normal, with one exception, in which there was a very slight laceration. There was not the slightest evidence, however, that this laceration had given rise to any diseased condition of the cervical or uterine tissue. Nineteen bitches have been examined. Some of these have had pups a number of times. In no case could any laceration be found. The cervices were quite healthy and firm. The uterus and cervix of thirty-five cats, have, so far, been carefully seen. These animals were all, I believe, multiparous. In only one was there the least evidence of tearing; and in this case it was so very slight as scarcely to deserve any mention, further than to show the results of the search. Two hundred uteri from cows have been subjected to scrutiny. These, like those of the sheep, were obtained from slaughter-houses. Of these two hundred, three showed some laceration, though not to any great extent, and one very slight fissuring. The tissue of the cervix in these four seemed, however, quite healthy, and contradicted the notion that a laceration necessarily leads to any unhealthy state of the part involved. It is almost unnecessary to state that all these cows had given birth to calves. Five samples have been examined from mares. In one there was laceration. This mare had had six foals. The others had one, two, four, and nine respectively. Although there was fissuring in these four, the injury was extremely slight. Thirteen sows' uteri have been examined, and with negative results in all cases.

Thus far, two hundred and eighty-seven animals have been examined, yielding seven cases in which there was more or less damage done to the cervix during the act of parturition. In none of these seven did there appear to be any evil results from the lacerations such as they were, judging from the condition of the cervical tissue.

Now, turning to the human female, much real information can be gained by studying examples of cervical laceration as they occur under different circumstances. The first group I shall refer to is that in which laceration took place, and in which the labor was hurried by medicinal agents. In this group I can place altogether twelve primiparous women. Three were attended by physicians, and nine by midwives. From the statements made by these twelve, there is no doubt that ergot had been given to hasten labor in the early stage. These persons state that something was given to them which caused severe and steady pains, and that, too, before they had been long in labor; in some cases, before any escape of water or the appearance of a "show." Now, of these twelve, there is unmistakable evidence of laceration of the cervix in ten of them. This is surely a fearfully large percentage! Had these women been left alone, with no other help than that required to cut the cord and take the child out of the way, things would have gone much better with them.

The next group contains twenty-one cases. They are all examples of forceps-delivery, and are also primiparæ. Five of these I had the opportunity of examining while in Britain. Four came into my hands after coming to Toronto, from various parts of Britain. All of these said that forceps had been used; and in eight there was well-marked laceration. Eight were attended in this country in different parts, yielding six examples of laceration. In four cases, which occurred in my own practice, in which forceps had to be used, there were lacerations in three, as shown by examination made some time afterwards.

Here, then, we have twenty-one cases of first births aided by forceps, and presenting seventeen examples of well-marked laceration. This is also a pretty high percentage. Now, it would be unfair to say that this was entirely due to the mere fact that the forceps were used; much of the real cause, no doubt, could be found in the conditions demanding their use. In my own four cases of primiparæ, followed by lacerations, the forceps were a necessity. Still, it cannot be denied that their use does tend to the production of this misfortune; and every caution should therefore be used always in their employment.

The next group of persons, twenty-nine in number, had been confined only once. In these there was no evidence that any urging drug had been used, nor had the forceps been employed, in the cases that had been attended by other physicians, eleven in all. In the remaining eighteen, delivered by me, the progress of the labors was left entirely to nature. In the eleven cases attended by others, there was no laceration worthy of the name; while in the eighteen attended by me, there was one case of slight laceration, which, however, gave rise to no disturbance, and was left, as a consequence, untreated.

Thus it will be seen that of twelve cases urged on by ergot, there were ten examples of laceration; and of twenty cases assisted by the forceps, there were seventeen branded with this mark. On the other hand, twenty-nine labors left to nature, gave only one lacerated cervix.

When we take into account the statements now made regarding the lower animals and the human female, it seems to me no difficult matter to draw the inference that the attendant should learn to refrain from useless interference with his midwifery cases; and, when he must interfere, he should be able to take his bearings well, and then proceed accordingly. It would be hard to conceive of any more dangerous belief than that the forceps must always be applied simply to save our time, or an hour or two of what may be called natural suffering on the part of our patient, needed to complete a normal labor. If the physician be so crowded with engagements that he cannot spare the requisite time, then he is in duty bound to humanity to relinquish some of his work. If he has not the heart and sympathy in his calling which will induce him to give to his patients all the advantages that medical science puts in his hands, then the sooner he abandons the profession of the healing art, the better will it be for his fellow-beings, and ultimately for his own conscience.

In conclusion, I would add, that it is not good philosophy to preach and practise the doctrine of shortening the sufferings in labor by the too ready use of forceps, at tke risk of causing an injury that may give rise to life-long misery, or necessitate an operation attended by more real suffering and distress to the unfortunate woman, than the few labor pains that would have been required to complete the act of childbirth.

HOSPITAL NOTES.

TERRACE BANK HOSPITAL FOR WOMEN, PITTSBURG, PA.

Service of Dr. R. S. Sutton.

(Reported by Wm. L. Stone, M.D.)

MR. LAWSON TAIT'S OPERATION FOR SUPPURATING HÆMATOCELE.

Mrs. Thomas S., an English woman aged thirty-two, was sent to Dr. Sutton about the first of June, 1884, on account of a painful enlargement of the lower portion of the abdomen. The pelvis was full, the uterus misplaced; the patient was thin, anæmic, and bore a haggard countenance. After examination, the mass, in which fluctuation was evident, was diagnosticated an abscess. As there was no bed empty in the hospital at the time, she was sent home with a letter to her physician, requesting him to tap the collection without delay. This was done by Dr. J. Q. Robinson, of West Newton, on the following day, and a very large quantity of pus was evacuated. For two weeks the patient improved in every way; by the end of three weeks the sac was full again, and she was suffering pain. Again she was sent back to Dr. Sutton, who received her into his private hospital on June 21st, and performed Mr. Tait's operation on June 24th in the presence of Dr. Robinson, of West Newton, Pa., and Dr. Knox, of McKeesport, Pa.

An incision two inches long was made through the abdominal wall, and all bleeding was so effectually controlled that no blood entered the cavity of the abdomen. The peritoneum at the edges of the abdominal wound was then closely stitched, with antiseptic silk, on to the dome of the abscess sac lying in full view. The sutures were cut short, to be left. An aspirator trocar was introduced through that portion of the sac wall left exposed, and pus was immediately found, but it was so thick that but little could be withdrawn. The sac was now laid open and nearly a quart of pus and blood-clots was removed from its interior. The wound was cleansed of all pus and blood and well dusted with iodoform. A large glass drainage-tube was introduced to the bottom of the sac, and the wound was closed with silkworm-gut sutures above and below it. Each suture included the pus sac which was thus secured to the abdominal wound by a double row of sutures, viz., the row uniting the peritoneum to the peritoneum covering the sac and the row closing the abdominal wound, each suture also including the sac. Prior to the operation her temperature was 99°. Six hours after the operation her temperature fell to 98.4°, and never rose above normal afterwards. On the sixth day a smaller glass tube was substituted for the large one. On the eighth day this was removed and a small rubber tube inserted. This tube and the stitches uniting the abdominal wound were removed on the fourteenth day. She returned home on the twenty-second day after the operation apparently perfectly cured, and no further trouble has been reported.

The operation was in every way satisfactory, and Dr. Sutton remarked that Mr. Tait had, by giving us this operation, done much practical good for this class of cases.

MEDICAL PROGRESS.

Resection and Extirpation of the Astragalus.—Dr. Margary, of Turin, reports two cases in which he operated on the astragalus for club-foot.

The first case was that of a man, thirty years of age, who acquired a very pronounced pes equinus, with astragalo-tibial ankylosis, after an internal subastragaloid dislocation. Following the precepts of König, Margary resected a wedge which comprised the whole of the head, the greater part of the neck, and three-fourths of the body of the astragalus, as well as the external malleolus, and corrected the deformity at the same time. Three months afterwards, the patient was presented before the Académie de Médecine of Turin. The form of the foot was correct, and the foot itself as solid as could be desired.

The second case was that of a man, twenty-eight years of age, who had sustained a dislocation similar to that in the preceding case. He also had pes equinus, and walking was painful, though there was no ankylosis. Dr. Margary extirpated the artragalus piecemeal. Four months afterwards, the man walked easily and without a cane. The movements of the foot were quite natural.

Margary also refers to a case in which Dr. Raffa resected the head and neck of the astragalus for pes varus, due to an old luxation of the astragalus. The correction was perfect in this case also.—*Gaz. Hebdom. de Montpellier*, July 12, 1884.

Corrosive Sublimate and other Antiseptics in Ophthalmology.—Sattler has recently made some extensive experiments as to the value of different antiseptics, when used in infected animal tissues, and especially in the eye. For this purpose he used silk threads sterilized by heat and then placed in cultures of micrococci from the lachrymal sac or jequirity bacilli. These threads were then dried with care, so as to prevent the access of other substances, and then dipped, with their cultures, into different antiseptic fluids for a longer or shorter time, according to the time which the disinfecting fluids are usually kept in contact with the tissues. Afterwards, the threads were again put in the culture chambers and observed.

His experiments showed that chlorine water by far exceeded all other antiseptics, and rendered every spore incapable of development in one minute. Next in value to chlorine water was a solution of corrosive sublimate, 0.5 to 1 per 1000. Three minutes longer were necessary for solutions of 1 to 5000. Third in the list were resorcin and hydroquinone in 3 per cent. solutions. Very favorable results were also obtained with concentrated watery solutions of salicylic acid, and almost the same results were obtained with 2 or 2.05 per cent. solutions of carbolic acid. Boracic acid was shown to be extremely weak, even in concentrated solutions; thymol (1 : 1000) was much better in concentrated watery solution. Hydrogen peroxide, iodoform, and absolute alcohol gave also comparatively slight results. When spores of splenic fever were used, chlorine water and corrosive sublimate gave favorable, and the other substances unfavorable, results.

Sattler says that in severe corneal ulcer the best antiseptic is the incandescent iron, most conveniently used in the form of the galvano-cautery. Severe hypopyon is then quickly absorbed, and painful ciliary neuralgia disappears in a very short time.—*Centralbl. f. d. med. Wissench.*, July 19, 1884.

Hæmatocele in a Cyst of the Cord, with Abdominal Prolongation.—Dr. Routier, Chief of the Surgical Clinic at La Charité, reports the case of a man, æt. 35 years, who, four years previously, had noticed that his scrotum had swollen on the left side, without appreciable cause. This swelling grew to a large size in a few weeks, and extended up into the groin. He had never had gonorrhœa, and had never had an injury of that region. Three years after its first appearance the tumor was punctured and iodine injected. He stated that on puncture being made *two quarts* of fluid resembling urine were drawn off. He seemed to be cured by this operation, but three months afterwards the swelling reappeared, and again assumed large proportions. The left side of the scrotum was now as large as the two fists, was rounded, elongated, and regular, and the tumor extended up into the inguinal region. At the lower part was a sort of rounded lump, which seemed added to the whole mass.

The skin over the scrotum was supple, elastic, and glided over the deeper parts in a normal manner. The tumor was soft on palpation, and fluctuation was made out in every part. A cough-impulse was easily discerned in the scrotal part of the tumor, and this could be gradually followed up to about two inches below the umbilicus. The corresponding iliac fossa was not involved; it was certain, therefore, that the pouch containing the liquid turned toward the median line, after passing through the inguinal canal. There was absolute dulness wherever there was fluctuation, and there was no transparency of the scrotum by transmitted light. The tumor was irreducible, and the patient had never had hernia. The testicle was clearly defined in the lower part of the tumor, and appeared to be separated from the remainder of the tumor. This position of the testicle seemed rather to indicate an enormous cyst of the cord, than an ordinary vaginal hydrocele. The diagnosis was settled, however, by an operation which disclosed a hæmatocele in a cyst of the cord.

The operation was performed in the following manner: After an exploratory puncture, which confirmed the diagnosis of hæmatocele, an incision was made into the scrotum and sac, which brought away about a quart of a thick, grumous, chocolate-colored liquid. The cavity was then found to be lined with a thickened false membrane, which was easily removed with the finger-nail and the curette. Anatomically, the sac was divisible into three parts: 1. The scrotal portion, which was easily removed. The testicle appeared to be in a perfectly healthy condition. 2. The inguinal portion, which was also easily removed. 3. The abdominal portion, into which the finger could be forced far enough to distinguish two prolongations; one pointing toward the umbilicus, the depth of which could only be reached with difficulty; the other seemed to descend into the pelvis, and its termination could not be reached. So far as possible, the internal face of this large cavity was scraped and cleaned with mounted sponges, with which the pouch was thoroughly scoured.

When the cavity had been cleared of false membrane, a sponge soaked with solution of zinc chloride was carried in; this being done, the walls of the cyst, which were at least one thirty-fifth of an inch in thickness, were closely sutured with catgut, the interrupted suture being used. Two large drainage-tubes were then placed in the abdominal portion of the pouch, and two others in the scrotum, and the wound closed with silver sutures, after which a Lister dressing was applied. The wound was completely cicatrized in a month and a half.

Cases of hæmatocele of cysts of the cord are very rare. Duplay mentions two cases, of Huguier and J. Rochard. Knipe (*Lancet*, 1880, vol. ii. p. 300) reports a case exactly similar to the one here recorded. Gray (*Lancet*, Sept. 1883) reports a case of extensive hæmatocele of the scrotum, extending up into the abdomen, but the situation of the testicles is not mentioned. He punctured and injected carbolic solutions, which caused suppuration. He then made a large opening, resected the exuberant portion of the scrotum, and the patient recovered. Bérand (*Archives Méd.*, 4th ser., vol. xxv.) reports two cases operated on by Velpeau and Cabaret. Curling reports three cases of encysted hæmatocele of the cord as very rare occurrences. In 1876, *à propos* to a communication from M. Ollier regarding a case of hæmatocele of the epididymis, Professor Guyon said that he had had three cases of cyst of the epididymis transformed into hæmatocele. In each case the cyst was as large as the fist. The testicle was always healthy, and was always on the outside of the cyst.—*Progrès Méd.*, July 5, 1884.

A SEA ATMOSPHERE FOR THE SICK-ROOM.—DR. B. WARD RICHARDSON says that the solution to be used and diffused as a spray consists of solution of peroxide of hydrogen (10 volumes strength), containing 1 per cent. of ozonic ether, iodine to saturation, and 2.5 per cent. of sea salt. The solution placed in a steam or hand-spray diffuser can be distributed in the finest spray in the sick-room at the rate of two fluidounces in a quarter of an hour. It communicates a pleasant sea odor, and is the best purifier of the air of the sick-room he has ever used. It is a powerful disinfectant as well as deodorizer, acting briskly on ozonized test solutions and papers. Mr. Carl R. Schomberg has recently invented a large spray-producer, which will diffuse the artificial sea air through a hospital ward.—*The Asclepiad*, July, 1884.

INTERNAL STRANGULATION CAUSED BY EXTRAUTERINE PREGNANCY.—M. Notta reports a case of this kind, operated upon by M. BOUILLY. The woman was forty years old; had for several days suffered from vomiting of bilious and fecal matter, and had distinctive symptoms of intestinal occlusion. The symptoms were so grave that M. Bouilly at once decided to practise laparotomy.

A large tumor had been recognized in the right flank, the first manifestations of which had appeared seven years before. The abdomen was opened, and the tumor found to be a fœtal cyst. The fœtus and its envelopes were contained in a thickened fibrous pouch, formed by the remains of old peritoneal false membranes. The fœtal cyst was easily removed, and M. Bouilly found that the intestine traversing the peritoneum at the upper and posterior part of this capsule was strangulated. The adhesions were loosened, and the wound closed. The patient died of collapse on the next day.—*Revue Méd. Franç. et Étrang.*, July 26, 1884.

RESECTION OF THE PYLORUS FOR CANCER.—At a meeting of the Medical Society of St. Petersburg, DR. BAIKOFF (*Vratch*, 1883, No. 8) reported the case of a woman, aged thirty-eight, who for three years had suffered from heartburn, eructations, and constant vomiting after every meal, and, of late, had become extremely cachectic and emaciated. The stomach was found much distended. In the situation of the pylorus there could be felt a hard, nodulated, movable tumor. The operation was performed under chloroform and the carbolic spray, and lasted four and a half hours. A transverse incision, 12 cm. (4¾ inches) in length, being made, the peritoneum was united with the skin. The tumor, 11 cm. (4⅖ inches) in length, 7 and 8 cm. (2¾ and 3⅛ inches) in breadth, occupied the pylorus and adjacent parts of the stomach and duodenum. The neighboring glands were slightly enlarged, but not infiltrated. The tumor was isolated and gradually separated by scissors, first from the small curvature and then from the duodenum, the wound in the stomach being closed step by step with the removal of the new growth. The remaining part of the latter was cut away after the duodenum had been sewn up to the stomach. About a hundred vessels were tied with catgut, and about eighty catgut sutures (Nos. 0 and 1) were used for closing the wound in the stomach and duodenum. The abdominal incision was treated after Lister's plan. The pulse after the operation was small and intermittent, but the patient soon recovered under the influence of a hypodermatic injection of musk, camphor, and ether. There was no fever up the third day, when a slight elevation of temperature occurred. On the fifth day the dressing was changed, several sutures being removed, and the patient, who had been up to that date fed through the rectum, began to take milk. On the seventh day, however, she died, after complaining of pressure and pain in the epigastric region. The post-mortem examination showed that the stomach was distended with fluid, though the exit was entirely free, since the contents of the stomach passed into the bowel when the body was turned on its right side. The gastro-duodenal wound was firmly closed with adherent inflammation. The author thinks that the patient died from exhaustion and a paralytic state of the stomach. The tumor was scirrhus, with partial transformation into medullary cancer.

In the same number of the same journal, Dr. N. A. Veliaminoff details the case of an extremely emaciated and nervous woman, aged forty-two, who presented all symptoms of a movable cancerous tumor of the pylorus, and in whom Professor K. K. Reyher had excised the latter. The length of the transverse abdominal incision was seven centimetres. The tumor was removed as a whole, the gastric wound being closed by double (*i. e.* both by mucous and serous) sutures. The operation was conducted without spray, and lasted about four hours. By the end of the second hour of the operation, collapse appeared, and eight hours after the resection the patient died from exhaustion.—*London Med. Record*, July, 1884.

The Infectious Genesis of Relapse of Tubercular Granular Degeneration after Operations on Tuberculous Glands, Bones, and Joints.—M. Wiskemann (*Archiv f. klin. Chir.*, Bd. xxx. S. 341) has treated, between July, 1879, and January, 1882, at his private hospital in Illzack, eighty children and young persons for tuberculous diseases of the lymphatic glands, bones, and joints. In no case was there any accidental wound complication. Only three patients died, and two of them of tubercular meningitis. Of the different ways in which tuberculous relapse may occur, Wiskemann lays special stress on what he terms "latent infection." He recommends crystallized iodoform more as a prophylactic in clean wounds than as a dressing for granulating surfaces.—*Centralbl. f. d. med. Wissensch.*, July 26, 1884.

Extirpation of the Larynx.—Mr. Thomas Jones removed, at the Manchester Royal Infirmary, on April 26th, the whole larynx, on account of epithelioma, from a man aged forty-four years

A vertical incision was made in the median line of the neck, reaching from the hyoid bone above to the thyroid isthmus below. The structures were carefully separated from the front of the thyroid cartilage, which was then divided and the two halves separated. The interior of the larynx thus brought into view was found to be almost completely filled with a new growth. The mass reached upwards to the epiglottis and downwards as far as, and to a certain extent into, the trachea. The extent of the growth made it evident that nothing short of complete extirpation would be of any avail. In order to do this, more room was required, and it was obtained by prolonging the incision downwards to the sternum, then dividing several more rings of the trachea so as to push the tracheotomy tube further down. This being done, the soft parts were now dissected off the sides of the thyroid cartilage and its attachment to the cricoid severed. The left half of the thyroid was then removed, its remaining attachments being divided with scissors. The right half, including the epiglottis, was treated in the same way. The laryngo-pharyngeal septum was found to be so extensively infiltrated that it was impossible to separate the larynx from the pharynx, so the whole of the anterior and lateral walls of the latter were taken away, only a portion (about an inch wide) of the posterior wall being left. This was subsequently divided and sutured to the margins of the skin incision. The cricoid cartilage, together with the first ring of the trachea, was next excised. The upper end of the trachea, was fixed to the skin by a carbolized silk suture on each side. Above the points at which the œsophagus was attached to the skin there was a large cavity which communicated with the mouth. It was washed out with a solution of chloride of zinc (forty grains to the ounce), and afterwards plugged with iodoform gauze. The patient left the Infirmary on June 14th, wearing one of Foulis's tubes, and taking all nourishment by the mouth.—*Lancet*, August 2, 1884.

Pulmonary Gangrene.—The sputa of such disagreeable odor expectorated by persons who have pulmonary gangrene always contain elastic fibres in large quantity. It would seem, then, that the elastic fibres of the lung, are dissociated and partly destroyed by a sort of special *ferment*, and various attempts have been made to prove the existence of this ferment. Glycerine has been added to the sputa from a gangrenous lung, and the mass filtered. For a comparative experiment, putrid liquids of another kind, and sanious pus from the pulmonary cavities of persons dead of tuberculosis, are taken. The elastic tissue dissolves in the filtered gangrenous liquid in two days, whilst it remains intact in the putrid liquids for about five days.

For the gangrenous liquid, this solution is made in an alkaline medium. But if the elastic fibres are placed in a solution of pepsin, the latter must be acidified. With pancreatine, on the contrary, the elastic tissue is dissolved in a neutral medium. However this may be, there is a true solution by means of a gangrenous ferment, which acts as a gastric ferment on the elastic tissue, which is so resistant to chemical agents.

It appears that this gangrenous ferment dissolves the albumen of white of egg, and does not dissolve colloid substances. If, therefore, it be desired to stop the rapid liquefaction of the pulmonary tissue in cases of gangrene of the lung, or of acute tuberculosis, some substance must be found which will hinder the action of this ferment. From certain experiments, Filehne believes in the efficacy of thymol, turpentine, phenol, salicylic acid, and sulphate of quinine. But as these substances only act when concentrated, he proposes to inject them directly into the pulmonary cavities through the thoracic walls; but he advises that experiments be first made on animals, in order to determine the exact effects caused by such procedures.—*Revue Méd. Franç. et Étrang.*, July 26, 1884.

Treatment of Sycosis.—The *Wiener med. Blätter*, of April 24, contains an article by Dr. von Hebra, on a new treatment of sycosis. Being dissatisfied with the customary maceration of the skin by means of diachylon ointment, he sought, some years ago, to discover some means by which this might be prevented. He now employs almost invariably the following plan of treatment. Any hair which may be left on the parts affected is cut as close as possible with scissors, and some emollient ointment applied for twenty-four hours, care being taken that it does not contain lead, which would form a compound with the sulphur to be subsequently employed. The crusts being by this time broken down, the part is shaved, by which means the tops of the pustules are removed and their contents evacuated. The whole of the affected surface of the face is then covered with a modification of Wilkinson's ointment, included in the Hungarian pharmacopœia under the name of "Unguentum contra scabiem," which is covered with a piece of flannel, and secured by a calico bandage. This dressing is changed every twenty-four hours, when the contents of each pustule are pressed out, and the hair which is usually found in the centre removed. When all the pustules have disappeared, the redness and scurf are removed by the application of an ointment containing one part of zinc to three of vaseline, and the cure is complete, in some cases within a few days. Several cases are cited in illustration.—*London Med. Record*, July, 1884.

Quinine in Suppositories.—R. Pick recommends the use of quinine in the form of suppositories, by which better effects may sometimes be obtained. For children, gr. xv to xxij of muriate of quinine may be made up with gr. xxx of coca butter, and some simple cerate. He recommends that an enemata be given one hour before the introduction of the suppository, and, further, that, in very restless children, the suppository may be introduced during sleep.—*Centralbl. f. d. med. Wissensch.*, July 26, 1884.

Operation for Absence of Lower End of Rectum, and Passage of Feces through Penis.—Dr. Francis J. Shepherd, of Montreal, reports the case of a child, three days old, which had an imperforate anus, and passed its feces through the penis. It had a very slight fulness of the perineum, a well-marked median raphe, and a slight puckered depression at the site of the anus. He decided first to try and reach the bowel through the perineum. After placing the child under chloroform, he made a free incision in the median line, dissecting carefully backwards and upwards in the direction of the rectum, and frequently placing his finger in the wound to feel for fulness or fluctuation. He dissected in this way to a depth of fully two inches, when, discovering a fluctuating tumor, he punctured it with his knife, and was pleased to see large quantities of feces escaping through the wound. He then enlarged the puncture in the bowel, and without much difficulty drew it down to the external wound, and held it there by catgut stitches.

The child was seen seven months afterwards, and was in good health.—*Edinburgh Medical Journal*, August, 1884.

Gastrostomy.—Dr. N. A. Veliaminoff, of Prof. Reyher's clinic, reports (*Meditz Obozrenie*, Fasc. 5, 1884) the case of a man, æt. fifty years, who suffered from cancer in the middle third of the gullet, and in whom he did gastrostomy (in two stages, with four days' interval). The patient got up on the third day after the operation, and four and a half weeks later he was shown to a meeting of the St. Petersburg Medical Society. Two months after gastrostomy he returned to his occupation. The patient died from cancerous perforation of a bronchus in the eighth month after the operation.—*London Med. Record*, July, 1884.

Resection of the Lingual Nerve for Neuralgia.—W. J. Kusmin reports (*Letopis Chirurg. Obschtschest.*, v. Moscow, No. 1, 1884) the case of a man, æt. 62 years, who for three years had had neuralgia of the third branch of the trigeminus, in the left half of the mouth, the tongue, in the region of the mental foramen, and in the zygomatico-temporal region. Section of the mental nerve and of the auriculo-temporal branch of the trigeminus caused only temporary abatement of the trouble. One year ago, the inferior alveolar branch was resected at its entrance into the lower jaw; this gave only temporary relief. Finding that pressure on the lingual nerve caused pain, Kusmin resected it at the border of the tongue, behind the sublingual gland. The pain ceased entirely in three days, and the patient has not felt it now for six months.—*Centralbl. f. Chir.*, July 26, 1884.

Extirpation of the Lungs.—Biondi reports the results of numerous experiments made on sheep, dogs, and cats. Partial extirpation, and amongst others that of both apices, were all followed by cure; total extirpation of one lung was successful in more than fifty per cent. of the cases, and several deaths seem to have been due more to some imperfection in the antiseptic dressing than to the operation itself.—*London Med. Record*, July, 1884.

Masking the Taste of Iodide of Potassium.—Mr. Gérard Lague says that syrup of currants completely disguises the taste of iodide of potassium; and persons who cannot take this drug on account of its disagreeable taste may use it by adding that syrup.—*Revue Méd. Franç. et Étrang.*, July 26, 1884.

Formulæ for Resorcine.—Schmidt gives the following as a useful formulæ for the administration of resorcine. For vaginal injections: Resorcine, gr. xv–xxx; water, f℥ij. For hypodermatic injections: Resorcine, ℈iv–ʒv; water, f℥iij. For topical application: Resorcine, ℈iv–ʒijss; glycerine (neutral) or vaseline, ℥j. For internal administration: Resorcine, ʒss–ʒj; simple syrup, f℥ijss; aromatic water, f℥iij. The last to be taken in doses of one teaspoonful every two hours.—*Revue Méd. Franç. et Étrang.*, July 26, 1884.

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SATURDAY, AUGUST 23, 1884.

The Copenhagen Congress has adjourned, and has left the pleasantest of recollections in the memory of all who participated in its proceedings. Sufficient time has not yet elapsed for us to estimate accurately the scientific outcome of the meeting, but our cabled reports justify the opinion that it was worthy of the occasion, and of the distinguished men of our profession who had gathered in the Danish capital to take part in its deliberations.

As we foreshadowed last week, we now have the pleasure to congratulate the American profession on the acceptance of the invitation to hold the next session in Washington. In extending that invitation the profession assumed a weighty responsibility, and in its discharge it will be found no easy task to equal the success which our Danish colleagues have just achieved, and of which they have good reason to be proud.

TUBERCULOSIS OF THE MEDIASTINAL GLANDS AND PURULENT PERICARDITIS.

In the earlier days of pathology a large proportion of the cases of pericarditis were looked upon as primary or spontaneous. As investigations into the anatomy of this inflammatory disease became more extensive and accurate, it grew evident that cases of this kind are in fact of rare occurrence. This is not only true in the sense that many cases of pericarditis are merely the local expression of some form of general disease, but also for the reason that in numerous instances cases apparently idiopathic have been found upon exact anatomical investigation to be secondary to local inflammatory processes, often of such a kind as readily to escape observation, in the immediate neighborhood of the pericardium.

In addition to the long-recognized connection between inflammatory processes of the pleuræ and of the endocardium and pericarditis, attention has been more and more fixed upon the structures of the mediastinum and especially upon the intrathoracic lymphatic glands. Zenker, in his investigations upon the influence of chronic inflammatory processes in the mediastinum upon the formation of œsophageal diverticulæ, years ago directed attention to the occurrence of perforative pericarditis in these conditions, and reported among fifty-four cases of traction-diverticula of the œsophagus from disease of the lymphatic glands, nine cases of complete and one of partial pericardial adhesion. In 1879 the same observer again insisted upon the part played by inflammation of the structures of the posterior mediastinum in the pathogenesis of pericarditis, and emphatically asserted that the lymphatic glands of this region were commonly the overlooked source of the inflammation.

Barėty, in 1874, found among 101 cases of disease of the thoracic glands 18 in which the pericardium was implicated, sometimes showing effusion, sometimes the lesions of past inflammation, from mere cloudiness to complete obliteration of the pericardial sac. In all these cases there was cheesy degeneration of the affected glands in various stages. In 11 cases of pericardial effusion, Barėty found the fluid serous in 9, and sero-hemorrhagic in 2. Zahn reported, in 1878, an interesting case of *purulent* pericarditis caused by the double perforation of a knot of lymphatic glands into the œsophagus and pericardium. The softened glands occupied a position between the bifurcation of the trachea and the aorta, and the opening into the pericardium was situated at its upper posterior wall. The sac itself was filled with a great quantity of thick, purulent, but not ill-smelling, fluid. Eternost, in an elaborate study of the chronic affections of the tracheo-bronchial glands and their results, in 1879, reported several instances of perforation of the pericardium by the softening of melanotic glands, with more or less extensive soldering of the pericardial surfaces by pseudomembrane, which was in several cases pigmented.

In the light of the rapidly advancing knowledge of the relation which the lymphatic apparatus, and especially the lymphatic glands, bears to the organized causes of disease (microbes), these glands must be looked upon as most dangerous neighbors for the pericardium. Modern pathology, largely concerned as it is with the subject of tuberculosis, affords to-day no more important matter for investigation than tuberculosis of the lymphatic structures in all their relations.

Prior to the discovery of Koch, Weigert, in a series of communications collected in his work on tuberculosis of the veins, recognized the intrathoracic lymphatic glands as the starting-point of the tuberculous virus into the blood-stream, and derived from anatomical considerations much support for the doctrine of the infectious nature of the tubercular process. The final recognition of the parasitic character of this virus, so far from diminishing the importance of such anatomical studies, has, in fact, greatly increased it. The question of the mode of entrance of the tubercle bacilli into the various organs, as well as into the blood-stream, continues to be the subject of earnest discussion.

As regards tuberculous inflammation of the serous membranes, Weigert urged the view that it is almost without exception due to direct infection from neighboring organs by contiguity. Especially has this author insisted upon the secondary nature of those cases of tuberculous disease of the pericardium in which the extension of the affection from a tuberculous pleura could be excluded, and which, therefore, have appeared to be instances of "primary" tuberculosis derived from infection through the blood. In these very cases, the lymphatic glands of the thorax constitute a swarming depot for the organisms which infect the pericardium by contiguity, and, in truth, less the bronchial glands themselves than the little glands which lie on the anterior surface of the pericardium in the mediastinum, or which are situated at its summit, in the region of its attachment to the great vessels.

Dr. Alfred Kast (*Virchow's Archiv*, June 6, 1884) has recently reported a case of great interest as bearing upon this matter. A laboring man, aged fifty-three, died of exhaustion, with purulent pericardial effusion and serous effusion into both pleural sacs. Seventeen days before death, 36 ounces of thick pus had been aspirated from the pericardial sac. This fluid was filled with tubercle bacilli. At the post-mortem examination, there were found cheesy degeneration and central softening of the lymphatic glands of the neck, of the anterior and posterior mediastina, and of the roots of the lungs; perforation of a cheesy lymphatic gland into the pericardium; induration of the apices of the lungs; moderate chronic and miliary tuberculosis of both lungs; and double pleurisy, with compression of both lower lobes. The pericardium was free from tubercle. Kast calls attention to the composition of the aspirated fluid which, although laden with bacilli, did not present the appearances usual in effusions due to tubercular inflammation of serous membranes. He attaches to a bacillus-laden effusion, without tuberculosis of the inflamed serous membrane from which it is derived, a general diagnostic value, as indicating the perforation of the serosa by an adjacent softening tuberculous gland, or, in the case of the heart, by a softening solitary tuberculous mass in its muscular walls. He also regards the existence of bacilli in the pus of pleurisy as likewise indicating the perforation of the pleura by a softened peripheral cheesy mass.

The differential diagnosis between bacillus-containing, usually purulent, "perforation-exudations" and the serous or sero-hemorrhagic effusions without bacilli which accompany the miliary tuberculosis of serous membranes, and the serous and purulent inflammations which are excited by a neighboring inflammatory process, without perforation, will hereafter be attended by little difficulty.

Weigert has suggested that the tendency of the tuberculous matter to invade the entire organism through absorption from serous sacs is counteracted by another peculiarity of this virus, namely, its tendency to produce cheesy inflammation. By this process it rapidly blocks the lymph-channels leading away from the serous cavities, and in this manner, especially when there is a sudden eruption of bacilli in great numbers, prevents general tuberculosis.

SUTURES OF THE ABDOMEN.

Now that abdominal section is such a frequent operation, the question as to the method of using sutures is one of great practical importance, and a valuable paper which has recently appeared from the pen of BAKO, of Budapest, on this subject is of timely interest. He points out that sutures badly applied are not without inconvenience, and may even produce hernia. But we have never seen a hernia after an ovariotomy unless the patient was up too soon, or supporting strips of adhesive plaster were neglected, or a bandage was laid aside too early. Nevertheless the accident may arise by the improper application of sutures.

Bako gives the following classification of sutures: First, those which include the abdominal walls and the peritoneum. This is the practice followed by almost all ovariotomists, and is not, as the author seems to indicate, peculiar to Spencer Wells; ovariotomists in America operating before Spencer Wells did, used the suture in this way. The second variety of abdominal suture is that which does not include the peritoneum; this method is followed by Olshausen and Kœberlé. The third variety is that in which two sets of sutures are employed, one for the peritoneum, and the other for the abdominal walls. The last plan is that practised by Kovacs. In it the peritoneal margins are carefully united by catgut sutures, and then the ordinary sutures are introduced so as to penetrate to the connective tissue immediately in front of the peritoneum, not including the latter. When superficial sutures are used, they should embrace the skin only, for, penetrating more deeply, they narrow the extent of the surfaces brought together in the antero-posterior direction, lessening the size and consequently the firmness of the cicatrix.

The objection to the sutures which include the peritoneum with the abdominal walls is that they draw the peritoneum into the abdominal wound, and hence, when union has occurred, the line of adhesion is thinner than the rest of the abdominal wall, and is unable to resist the pressure of the abdominal viscera, and hernia results. In the second variety, the peritoneum not being included, its edges often fail to unite. Nevertheless we find that Kœberlé does not regard this failure of union as probable, and thinks it much better to have the edges of the peritoneum approximated beneath the sutures than to include them in the sutures.

Two objections to the exclusive sutures of the peritoneum may be urged: The operation is protracted, and wounds are multiplied. Such wounds as are made in carrying a catgut suture through the peritoneum are not of insignificant size, and moreover they are liable to tear, and thus a lacerated is added to a punctured wound.

THE VIRULENT AGENT OF PUERPERAL SEPTICÆMIA.

Some recent investigations by Arloing as to the virulent agent of puerperal septicæmia, made to the Paris Academy of Sciences, are of great interest. He cultivated the puerperal virus in broth made of lean beef, water and sea salt; in the open air, in oxygen with normal pressure, in carbonic acid, and in a vacuum. The longest series of cultures was made with a drop of the blood of a rabbit dead of puerperal peritonitis, and carried to twenty-six generations. The multiplication of microörganisms begins rapidly, but is not complete until the fourth or fifth day.

The microbes kill rabbits in from eighteen to thirty hours, and even in some instances guinea-pigs, animals that are not affected by inoculation of peritoneal pus. If the cultures are made in a vacuum or in an atmosphere of carbonic acid, the microbes are less numerous, but have greater activity.

Arloing attributes the failure of previous experiments to the culture-liquid used, for he has found that chicken-broth causes the activity of the microbes to cease after the first or second generation, but this activity was restored by next using beef-broth. When rabbits were inoculated with the virus which had been cultivated in a vacuum, they died with all the symptoms of septic poisoning without suppuration; if the virus cultivated in the air was used, the disease was slower, and the animals presented the lesions of fibrinous peritonitis; but if the virus had been weakened by cultivation in an unfavorable medium, the disease was still longer, and purulent inflammation affected the serous membranes.

It will be seen that these experiments, in great part, sustain the theory held by most clinical observers, viz., that puerperal septicæmia is essentially one, while multiform in its manifestations, and that its cause, while conveyed to the body by different media, is also single, in short, puerperal septicæmia is the result of a poison as specific in its action, as that of scarlatina. The puerperal condition creates the susceptibility to the poison, just as individuals at a particular time, by some unknown modification of the system, are susceptible to the scarlatinal poison, and take the disease, when they have escaped in a previous exposure. Further, as the scarlatinal poison varies in intensity at different times, so may the puerperal poison have like variations, and thus an explanation is given of one of the causes of the differences in the severity of the disease depending upon the latter poison.

Arloing, however, holds that if it is proved that the microbe of the puerperal virus is single, it is not proved that it may be peculiar to the disease, but only "that puerperality realizes the conditions favorable to its introduction, and to its evolution in the human organism."

SPLENECTOMY.

At the Thirteenth Congress of the German Surgical Association, von Hacker, of Vienna, exhibited a lymphoid sarcoma of the spleen, which had been successfully extirpated by Billroth on March 20th. Before removal, the oval tumor measured ten inches vertically and rather more than seven inches transversely. On median laparotomy, the convexity of the tumor was found to be free from attachments, but the omentum and a coil of the intestine were adherent to the hilus. The splenic artery and vein were divided between two ligatures, and rather more than an inch and a half of the adherent tail of the pancreas required removal with the thermocautery.

In the splenectomies hitherto recorded, the operation was done for wounds, hypertrophy, cysts, wandering spleen, or leukæmia, so that this is the first ever performed for sarcoma. In addition to this point, the case is, however, interesting from the fact that, three weeks later, there was a slight increase in the number of white blood-corpuscles, but there was no enlargement of the thyroid gland or the lymphatic glands, nor was there pain in the bones, or nervous disorders.

Credé, of Dresden, exhibited at the same Congress, a man, whose spleen he had removed two years and a half previously, on account of a cyst of the volume of a child's head. In this case, as in the preceding one, there had been no enlargement of the thyroid or lymphatic glands, and the man was apparently thoroughly well. In the discussion which followed, Czerny, of Heidelberg, stated that the woman from whom he had removed a movable hypertrophied spleen five years previously, and who was still alive, exhibited no changes in the blood or in the organs referred to. Hence, we may infer that the spleen is not absolutely essential to life, and that its function, after extirpation, is assumed by the medulla of the bones and other lymphatic organs.

BLACKMAILING.

IT is so rare that the confidential relations existing between a medical man and his female patients are taken advantage of to injure his reputation, or extort money from him, that he is in constant danger of forgetting the risks which are necessarily assumed in the practice of his profession, and that he may be entrapped when least suspecting it. Indeed, the very honesty of intention characteristic of the true physician may cause him to overlook those precautions which a bad man would naturally take.

A case which has recently been brought to the notice of the public in Philadelphia illustrates the dangers to which we are all subject. A physician, whose reputation has always been above reproach, was charged by a girl of bad character with having used instruments with the intent to produce abortion. She consulted him concerning a possible pregnancy, and he used a speculum, but no other instrument, to aid him in making a diagnosis. No sickness followed, and she never had any symptoms of miscarriage. Having previously treated her with success for an illness for which he received only thanks, he had the less reason to suppose that he was now being made the victim of a basely conceived blackmailing scheme, the character of which can be easily proven, but which, nevertheless, subjects him to great annoyance, anxiety, and expense.

The question naturally suggests itself, Cannot the physician protect himself against such unfortunate occurrences? To say that he should never examine a woman or treat her for a disease peculiar to her sex, without the presence of a third person, is to make a suggestion which it is clearly impossible to carry out in every instance. There are, however, certain precautions which should be generally observed. Under no circumstances should he consent to examine a young woman who seeks his advice for recent amenorrhœa except in the presence of a third party, or even prescribe for her an emmenagogue. The simple fact that a woman does not menstruate, in the absence of pregnancy, is nothing of itself. It is merely symptomatic. Under any circumstances, the patient is not likely to suffer harm by delay; and, as a rule, it is as well in obscure cases to give nature a chance to reassert herself. When examinations are made, extreme care should be observed in the use of the sound, as miscarriage has been induced more than once in manipulations when pregnancy was not even suspected.

In spite of the observance of these suggestions the practitioner will still run risks against which no set rules can guard him. But to be forewarned is to be forearmed, and the fact that a young woman seeks advice for amenorrhœa should cause him to be on his guard as to her motives until he has ascertained the true nature of her case and character.

CONSERVATISM AND RESECTION IN DISEASES OF THE JOINTS.

IN an exhaustive paper contributed to the *Deutsche Zeitschrift für Chirurgie*, Bd. xx. Hefte 3 and 4, 1884, CAUMONT, of Münsterlingen, compares the relative advantages and disadvantages of conservative measures and resection in chronic inflammation of the articulations of the lower extremity, his statistics being based upon 281 cases treated in the clinic of Kappeler.

Of the entire number, the hip was affected in 129. Of these, 85 were managed conservatively, with 21 deaths, 22 recoveries with normal function, 38 recoveries with more or less loss of function, and 4 recoveries with the parts not healed. Of the 44 resections, 27 died, and 17 recovered. Hence the mortality was in favor of conservatism by 27.5 per cent.

The knee was the seat of disease in 130 cases, of which 95 were treated conservatively, and 35 by resection. Of the former, 27 died, 20 recovered with normal function, 46 recovered with more or less loss of function, and 2 remained unhealed. Of the resections, 14 died, and 21 recovered, the mortality being greater by 11.6 per cent. than that of the cases in which no operation was performed.

The ankle was affected in 22 examples. Of the 13 treated conservatively, 2 died, 6 recovered, 2 remained unhealed, 1 was still under treatment, and 2 recovered after amputation. Of the 9 resections, 3 perished, and 6 recovered with good use of the limb.

The lesson taught by this record is that, in inflammation of the hip-joint and knee-joint, expectancy is preferable to resection; and that resection secures a better result than attempts to save the joint in disease of the ankle, despite the fact that it yields a greater rate of mortality.

THE intelligence of the death of SURGEON JOSEPH J. WOODWARD, U. S. A., which occurred near Philadelphia, on the 17th inst., will be received with sorrow by the profession which he so highly adorned. His valuable labors in connection with the Medical History of the War and the organization of the Army Medical Museum, together with his numerous contributions to our science and literature, have given him wide-spread reputation, and it is a cause for profound regret that in the very prime of life his brilliant career should have been thus abruptly ended.

Next week we shall lay before our readers a sketch of his life and labors.

REVIEWS.

SEXUAL NEURASTHENIA (NERVOUS EXHAUSTION). ITS HYGIENE, CAUSES, AND TREATMENT, WITH A CHAPTER ON DIET FOR THE NERVOUS. By GEORGE M. BEARD, A.M., M.D., etc. (Posthumous Manuscript.) Edited by A. D. Rockwell, A.M., M.D., etc. 8vo. pp. xii., 270. New York: E. B. Treat, 1884.

WHATEVER may have been the faults of the author of this little book, published since his untimely death by his friend Dr. Rockwell, he had no lack of faith in the correctness of his own opinions. What he wrote about, he seemed to be sure about. This assurance of being right has some advantages and some disadvantages. In the case of Dr. Beard, it attached to him a certain number of followers; while, on the other hand, it detached from him many who, though admiring the daring of his imagination, could not fail to foresee that it promised as little permanent gain to him and to others as the wings on which Icarus once pleased himself with soaring above the solid earth. But while the general reputation of Dr. Beard was a precarious thing, carried up rather by flights of fancy than by solid reasoning, it cannot be denied that his zeal and ambition have contributed to the cause of science and humanity, by attracting the attention of the thoughtful to a more careful study of the phenomena for which he popularized the name "neurasthenia." And though his own notions in regard to them may have been exaggerated, yet they had a basis of truth which entitles them to serious consideration, and it is not proper to sneer at the share he had in securing for them the attention they deserve. The book before us is a part of Dr. Beard's work in this direction. It relates to an integral part of neurasthenia, and one which often sorely tries the information and skill of the practitioner. It is somewhat unfortunate that it comes at a time when several other books, of seemingly similar purpose, have appeared, overweighted with unclean details, and with the effect of prejudicing the reader against everything which belongs to the same class. But this book is not unclean. Though rambling and inaccurate, it is a readable contribution to the literature of sexual disorders, and is not open to any moral objections. As to its scientific value, truth and charity forbid us to say much. It is no better than the average of the author's work, and, we think, no worse. The concluding chapter, "On Diet for the Nervous," is, in our opinion, equally characteristic and erroneous, exhibiting nothing so much as the author's ingenuity in seeming to establish a point by citing facts which militate against it.

In saying this we are not oblivious of the time-honored maxim, "*Nil nisi bonum de mortuis*;" but hold it to be always subservient to a less sentimental but more needed motto, "*Nil nisi verum perpetuo.*"

SOCIETY PROCEEDINGS.

INTERNATIONAL MEDICAL CONGRESS.

Eighth Session.

Held at Copenhagen, August 10th–16th, 1884.

Special Cable Dispatch from
Our Own Correspondent.

COPENHAGEN, AUGUST 16TH. The Eighth Session of the International Medical Congress has just adjourned, and the Organizing Committee, of which Prof. P. L. Panum is President, are the recipients of general congratulation on the very successful culmination of their efforts. On all sides the meeting is pronounced

A GREAT SUCCESS.

On Wednesday, the excursion to Elsinore occupied the entire day

A SPLENDID LUNCH

was served in the magnificent and venerable Castle of Kronborg, which was built towards the end of the sixteenth century, and from whose turrets were obtained superb views of the straits and of the neighboring countries.

On Thursday, the Sections met in the morning as usual, and in the afternoon, SIR WILLIAM GULL, of London, on behalf of the Collective Investigation Committee of the British Medical Association, delivered, before the Congress in general meeting, an admirable

ADDRESS ON THE INTERNATIONAL COLLECTIVE INVESTIGATION OF DISEASE.

In conclusion, he presented a resolution providing for the appointment of an International Committee to undertake collectively the prosecution of pathological research. It was adopted, and the President appointed as the

AMERICAN REPRESENTATIVES ON THE COMMITTEE,

Dr. Abraham Jacobi, of New York, and Dr. Nathan S. Davis, of Chicago.

In the evening the Corporation of Copenhagen gave

A GRAND BANQUET

to twelve hundred members of the Congress. Upon its conclusion, the guests were conveyed in boats to Tivoli to view the illumination and fireworks, which was a superb sight, and fully thirty thousand persons were gathered to witness it.

On Friday the General Committee discussed the place of next meeting, and after carefully considering the various suggestions which had been offered, determined to recommend to the Congress to accept the invitation, presented on behalf of the American Medical Association, to meet in Washington in 1887.

Professor Tommasi-Crudeli, of Rome, gave a

DEMONSTRATION OF MALARIAL GERMS,

and exhibited under the microscope a number of very good specimens.

Prof. Rudolf Virchow, of Berlin, then gave an

ADDRESS ON METAPLASIA,

which was in every respect worthy of its distinguished author, and was received with great applause.

THE KING OF DENMARK ENTERTAINED THE MEMBERS OF THE CONGRESS

in the evening, at a reception held in the Palace, and the occasion was graced by the presence of the members of the Royal Family. After a handsome collation had been served,

THE KING OFFERED A TOAST

to the health of the foreign members of the Congress, to which Sir William Gull, on their behalf, eloquently responded.

On Saturday morning, the work of the Sections, as laid down in the programme, was completed, and in the afternoon, in general meeting, Prof. P. L. Panum, of Copenhagen, delivered an address

ON INVESTIGATIONS OF FOOD-RATIONS FOR MEN IN A STATE OF HEALTH AND OF DISEASE, ESPECIALLY IN HOSPITALS, INFIRMARIES, AND PRISONS OF DIFFERENT COUNTRIES.

Upon its conclusion, upon the recommendation of the General Committee, the Congress adopted, by an overwhelming vote and amid much applause, the invitation to hold its

NEXT MEETING IN WASHINGTON IN 1887.

The formal programme of the Congress having now been completed, Dr. John S. Billings, of the United States Army, Prof. Carl J. Rossander, of Stockholm, Sir Risdon Bennett, of London, and Prof. Virchow, of Berlin, in brief speeches, presented, on behalf of the foreign members, their best

THANKS FOR THE CORDIAL HOSPITALITY

with which they had been received, and congratulations on the very successful termination of the session.

Prof. Panum, in a short address, thanked the members for their attendance at the Congress, and wished them a pleasant journey homeward, and long life and happiness. He then declared the session adjourned *sine die*.

A FAREWELL FESTIVAL

was given in the evening to the members of the Congress and their ladies, at which there was dancing and a handsome collation.

The universal expression of opinion is that the scientific aspect of the Congress has been good. The programme of work done in the Sections was full and included the presentation of a large number of valuable papers, and the demonstration of numerous interesting pathological specimens. The Section meetings were well attended and the discussions were actively participated in.

In dispersing to their homes the members will carry with them most pleasant recollections of Danish hospitality and of the Copenhagen Meeting of the International Medical Congress.

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, June 2, 1884.

The Vice-President, D. Hayes Agnew, M.D., in the Chair.

Dr. W. W. Keen read a paper on

SO-CALLED ABSCESSES OF THE FRONTAL AND MAXILLARY SINUSES, AND ESPECIALLY ON THE VALUE OF PERCUSSION AS A MEANS OF DIAGNOSIS, AND THE PROPER OPERATIVE MEASURES FOR THEIR RELIEF.

(See The Medical News, August 16, 1884, page 172.)

Dr. Garretson, who was present by invitation, said that this paper covers the ground so completely that there is little to be added. He would remark, however, that very frequently one can get through the back part of the canine fossa. The best place to make the opening is where the roots of the molar teeth come in contact with the floor of the antrum. In partially dentulous arches, that is, where the teeth have been lost, and there is disease of the antrum, this may not show itself externally, but on running the finger along the part, the bone will be found so thin that it will bend. In one case in which there was no external evidence, he made a cut preparatory to opening the antrum, and at once the knife went into that cavity, the bone being absent.

There is another point regarding alveolar-dental abscesses. They occur at the roots of the teeth, and are in relation with the mucous membrane of the antrum, and may discharge into that cavity. There we have a partial abscess of the antrum, and the bone is denuded of its mucous membrane and imperfectly developed periosteum.

He had been struck with the fact that many cases treated as nasal catarrh are quickly remedied by perforation of the antrum and application of remedies to the antrum. *Vice versâ*, there may be nasal trouble which shows itself as antral disease, where, although the antrum is perforated and remedies are applied to its surface, but little benefit may be afforded. There is a very intimate surgical relation between the two parts. It has been his experience that disease of the antrum is quite rare.

Dr. R. J. Levis said that he had once performed the operation of bringing a thick cord down through the nares and another cord through an incision made above, tying the two together and allowing the patient to wear it for a considerable length of time. The principle is to establish thorough drainage through the normal tract.

In regard to abscess of the antrum, he has made the opening through the maxillary bone above the alveolus. He thought that surgeons have had difficulty in keeping these wounds open so as to keep up thorough drainage. He has been in the habit of keeping them patulous by the use of thick leaden wire. He uses a loop of leaden wire, pressing the loop in as strongly as possible, and allowing the ends to project underneath the cheek, so as to give no inconvenience. He has under treatment two patients, one of whom has been wearing this leaden wire for a number of years, and says that he cannot get along without it.

Dr. Brinton said that as regards the influence of injuries to the infraorbital canal in producing abscess of the antrum, the worst case of antral abscess which he ever saw followed an excision of the infraorbital nerve which he performed some years ago. The abscess followed the operation in a short time, and lasted for a long time.

Dr. Keen, in closing the discussion, remarked that these two cases are the only ones which he had seen, and that the disease is rather rare. He had not the slightest difficulty in keeping the wound open sufficiently to wash the cavity out by passing a small Nélaton catheter. He kept it open until the discharge entirely disappeared, which was in six or seven days.

NECROSIS OF HUMERUS: AMPUTATION AT SHOULDER.

Dr. Willard presented the specimens; the first being a *humerus* injured by a Minie-ball in 1863, resulting in a slow osteomyelitis, which extended over twenty-one years, and terminated in the invasion of the entire bone, save the articulating surface at the elbow. During this long space of time, there had been alternating periods of discharge, and of closures of sinuses, but fragments of bone had never been seen since the first year after the accident.

When admitted to the wards of the Presbyterian Hospital the man was exceedingly anæmic and broken down, the discharge of pus averaging several ounces daily, and there was dulness on the left apex with slight cough. Soon afterwards he had a severe attack of erysipelas which invaded the whole arm, and still further reduced his strength, the temperature rising to 104.5°. The bone, felt through the various sinuses was denuded and roughened. After full recovery and a thorough tonic course of treatment, an exploratory incision revealed a total necrosis without involucrum, the dead fragments being movable upon each other and threatening complete fracture.

Three weeks later, after putting the patient in the best possible condition, amputatión of the shoulder was performed. From the moment of the division of the muscles the shock was most profound, and, rallying powers being wanting, he sank in six hours.

At the operation the glenoid cavity was found diseased, but, owing to the patient's condition, the head of the scapula was not removed. The head of the humerus was entirely denuded of cartilage, a large pus-cavity occupied its interior, and it was only united to the shaft by fibrous bands of inflammatory tissue. The entire upper third of the bone had become divided into several sequestra, but there was no attempt at the formation of new bone. From the upper third to the condyles the surface was partially denuded, and was generally roughened and thickened, showing that no resection save of the complete bone, together with the head of the scapula, would have been of any service.

Dr. Willard then exhibited the specimens from a case of

LARGE IRREDUCIBLE UMBILICAL HERNIA, WITH STRANGULATION OF A FRESHLY ENTERING LOOP OF INTESTINE,

which particularly illustrated the ease with which a serious trouble may be overlooked.

The patient was a very fat woman, aged seventy-six, who had been in the hospital for months with leg ulcers, accompanying extensive valvular disease. One morning she was noticed to be vomiting as the surgeon passed through the ward, but she complained of no pain and had had a passage from the bowels upon the previous day. An examination of the ulcers showed them to be in a sloughing condition, the granulations being almost gangrenous. The ejected matters were only bilious, and one dose of a quarter grain of morphia and the same of calomel checked even nausea. There was slight fever, but no pain. At the evening visit the resident physician found her quite comfortable, but eliciting the fact of an old umbilical hernia which she had previously concealed from him and all others, he examined it thoroughly but could discover no symptoms of tenderness or pain. During the night without complaint of pain, and without further vomiting, she died.

The hernial tumor was of the size of a large fœtal head. The peritoneum was adherent, opaque within the tumor and around the margin of the neck, and the cavity contained a sero-sanguinolent fluid. The contents of the sac, which were irreducible, were mesentery, several feet of small intestines, and a portion of the transverse colon, thoroughly agglutinated and adherent to the walls. In addition to the old contents, a long loop of small intestine had recently entered through the opening, which was about three inches in diameter, and had been so constricted that peritonitis had supervened, as was shown by congestion of the entire tract. At the point of greatest strangulation this redness was intensified almost to blackness, and gangrene would speedily have followed. After death, this loop was reduced with ease, and the constriction could be scarcely discovered.

The left ventricle of the heart was thickened. At the root of the mitral valve was a calcareous ring, almost bony in consistence, surrounding three-fourths of the circumference. The aorta was dilated to twice the normal size.

Lungs healthy; liver enlarged, with some opacity of the capsule of Glisson.

Acini distinct; gall-bladder small; walls thickened, and mucous lining almost destroyed; gall-stones numerous; left kidney enlarged, mottled, and grayish; right, fatty and congested.

The case was of interest, as it showed a strangulation with absence of all of the ordinary symptoms, yet the patient died from the incipient shock of developing peritonitis.

LYMPHOMATA OF THE AXILLA.

Dr. Ferdinand H. Gross exhibited thirteen lymphoid tumors, of various sizes, which he had removed from the left axilla of a female patient, at the German Hospital. The patient was twenty-one years of age.

Her family history furnished no cause for believing that the disease had been inherited; her grandparents had lived to be quite old, and her parents were still living and in good health, as were also her brothers and sisters. She had never been sick until after her arrival in this country, where she has lived about a year, following the occupation of a servant-girl. During the last six months she had been troubled with indigestion and constipation, and when admitted to the hospital was affected with erythema of the left leg. Her temperature was slightly elevated, and the pulse was rapid and weak. The bowels were constipated, and there was loss of appetite. The erythema was of a mild character, and yielded promptly to the use of laxatives and astringent local applications. About five months previously she had had a similar affection of the other leg. In the left axilla there existed a growth, or growths, forming a mass of considerable size. Of this, however, the patient made very little complaint, saying that it did not now cause her any inconvenience, except when she used her arm a good deal—though it had at one time given her some pain. She noticed this enlargement for the first time ten or twelve weeks ago. But, of course, its origin dates farther back, as it had when discovered already attained nearly the size of a hen's egg. The conglomerate mass was now firmly bound down against the thoracic side of the axilla, but in the apex of that space, near the large bloodvessels and nerves, the attachments were less rigid. The tumor, as a whole, imparted a hard, elastic feeling on being manipulated, and was lobulated, but not painful. The mamma was not involved in the disease, and no other glandular enlargements were anywhere discovered.

The patient promptly consented to submit to an operation, and on the twenty-seventh of May, five days ago, she was etherized, and the thirteen tumors here presented were removed. A vertical incision, about four and a half inches in length, was made through the integument and fascia covering the mass, and the dissection continued in this line until the capsule of the first and largest of the growths was reached. After this, there was little use made of the knife, except here and there to open a capsule, or to divide some restricting bands. This done, the enucleation of all the tumors was readily completed with the fingers. The largest in the collection was about the size of a goose's egg, while there are several not larger than hen's eggs, and still others as small as filberts. They had not been fused into one mass by any inflammatory process, and were enucleated one after another. The second one in size was tightly bound under the great pectoral muscle, and extended to the under surface of the collar-bone. The hemorrhage was inconsiderable, and only one small vessel required a ligature. The cavity was thoroughly washed out with a solution of bichloride of mercury, a drainage-tube inserted, and the edges of the wound brought together by sutures. The external dressing was saturated with the antiseptic solution mentioned, and was not disturbed for forty-eight hours. It is now the fifth day after the operation, and the patient is progressing favorably. The wound looks well, and is almost entirely healed. There has been no microscopic examination, but from the general appearances of the tumors, and from the cut surfaces, there is no doubt that they are of a lymphoid character. The larger ones can hardly be regarded as being simply hyperplastic, but rather neoplastic.

A committee was appointed to make a microscopic examination of the growths.

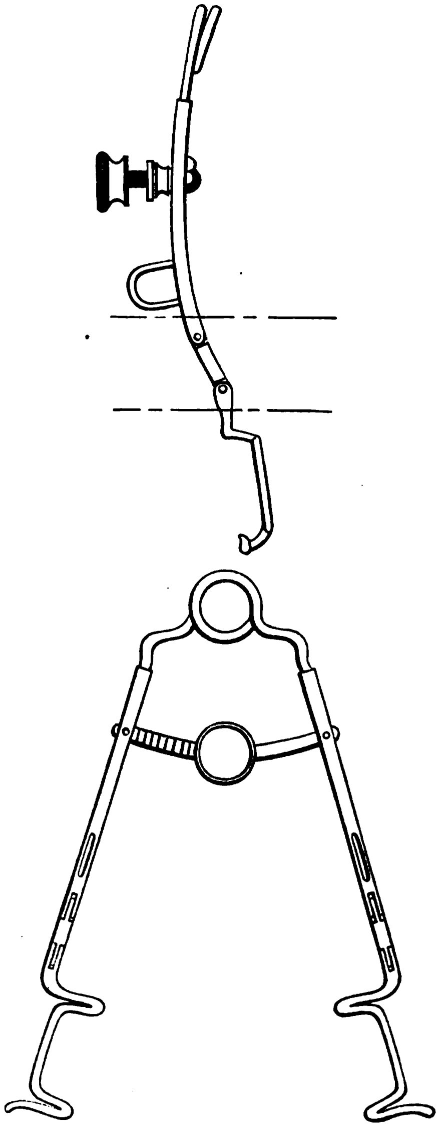
NEW INVENTIONS.

A MODIFICATION OF THE STOP-SPRING SPECULUM.

By T. D. MYERS, M.D.,

OF PHILADELPHIA.

FINDING the end of the spring or stop-speculum greatly in the way in ophthalmic surgery, I sought to do away with the inconvenience of the instrument by having a double joint placed between the retractors and the spring. The cut shows the modification, which enables the operator to depress the end of the speculum out of the way, or even to introduce it on the nasal side, where it will rest on the nose, leaving the temporal side of the eye entirely free to the operator. The instrument was made by Kolbe, of Arch Street.



NEWS ITEMS.

Dr. Koch on the Cholera and the Comma bacillus.—An important conference upon cholera was held in Berlin, at the office of the Imperial Board of Health, on July 26, the proceedings of which appear in full in the *Berliner klinische Wochenschrift*, of August 4, and have been translated in *The Lancet* of August 9. There were present, Drs. v. Bergmann, Coler, Eulenberg, B. Fränkel, Gaffky, Hirsch, Koch, Leyden, S. Neumann, Pistor, Schubert, Skreczka, Struck, Virchow, and Wollfhügel.

The conference had been called at the instance of the Berlin Medical Society, whose President, Prof. Virchow, explained that it was thought advisable Dr. Koch should, in the first instance, give a demonstration of his work before a smaller body than the whole Society, so that the proceedings might be fully reported in the medical press. Before the meeting, Dr. Koch exhibited microscopical specimens and drawings of the cholera bacillus, and demonstrated the method of its preparation and cultivation. The preparations included specimens of choleraic dejections dried on covering-glasses, stained with fuchsin or methyl-blue, and examined with oil immersion, one-twelfth, and Abbe's condenser; also sections of intestine preserved in absolute alcohol, and stained with methyl-blue. There were also cultures in gelatine, etc.

Dr. Koch commenced by remarking that what was required for the prevention of cholera was a scientific basis. Many and diverse views as to its mode of diffusion and infection prevailed, but they furnished no safe ground for prophylaxis. On the one hand, it was held that cholera is a specific disease originating in India; on the other, that it may arise spontaneously in any country, and own no specific cause. One view regards the infection as conveyed only by the patient and his surroundings; the other, that it is spread by merchandise, by healthy individuals, and by atmospheric currents. There is a like discrepancy in the views on the possibility of its diffusion by drinking-water, on the influence of conditions of soil, on the question whether the dejecta contain the poison or not, and on the duration of the incubation period. No progress was possible in combating the disease until these moot-questions of the etiology of cholera are decided. Hitherto, the advances in knowledge upon the etiology of other infective diseases have done little toward the etiology of cholera. These advances have been made within the last ten years, during which time no opportunity—at least not in Europe—has occurred to pursue researches; and in India, where there is abundant material for such research, no one has undertaken the task. The opportunity given by the outbreak of cholera in Egypt, last year, to study the disease before it reached European soil was taken advantage of by various governments, who sent expeditions for the purpose. He had the honor to take part in one of these, and, in accepting it, he well knew the difficulties of the task before him, for hardly anything was known about the cholera poison, or where it should be sought; whether it was to be found only in the intestinal canal, or in the blood, or elsewhere. Nor was it known whether it was of bacterial nature, or fungoid, or an animal parasite—*e. g.*, an amœba. But other difficulties appeared in an unexpected direction. From the accounts given in text-books, he had imagined that the cholera intestine would show very slight changes, and would be filled with a clear, "rice-water" fluid. He had not fully recollected the conditions met with in post-mortem examinations he had formerly made, and was, therefore, at first surprised to meet with quite a different state of things. For he soon found that, in a large majority of cases, remarkably severe lesions were present in the intestines. In other cases, the changes were slighter, and eventually he met with some which to a certain extent corresponded with the type described in text-books. But it was some time, and after many inspections, before he was enabled to interpret correctly the varied changes met with.

In spite of a most careful examination of all other organs and of the blood, nothing was found to establish the presence of an infective material, and attention was finally concentrated on the intestinal conditions. There were cases in which the lower segment of the small intestine, most marked immediately above the ileo-cæcal valve, extending thence upwards, was of a dark, reddish-brown color, the mucous membrane being covered with superficial hemorrhages. In many cases, the mucous membrane appeared to be superficially necrosed, and covered with diphtheritic patches. The intestinal contents in such cases were not colorless, but consisted of a sanguinolent, ichorous, putrid fluid. Other cases showed a gradual transition to a less marked change. The redness was less intense, and was in patches, whilst in others the injection was limited to the margins of the follicular and Peyerian glands, giving an appearance which is quite peculiar to cholera. In comparatively few cases were the changes so slight as to consist in a somewhat swollen and opaque condition of the superficial layers of the mucous membrane, with delicate rosy-red injection, and some prominence of the solitary follicles and Peyer's patches. In such cases, the intestinal contents were colorless, but resembling meal-soup rather than rice-water. In only a solitary instance were the contents watery and mucoid.

Microscopical examination of the intestine and its contents revealed, especially in the cases where the margins of Peyer's patches were reddened, a considerable invasion of bacteria, occurring partly within the tubular glands, partly between the epithelium and basement membrane, and in some parts deeper still. Then he found cases in which, besides bacteria of one definite and constant form, there were others also accumulated within and around the tubular glands, of various size, some short and thick, others very fine; and he soon concluded that he had to do here with a primary invasion of pathogenic bacilli, which, as it were, prepared the tissues for the entrance of the non-pathogenic forms, just as he had observed in the necrotic, diphtheritic changes in the intestinal mucosa and in typhoid ulcers. Passing to speak of the microscopical characters of the contents of the bowel, Dr. Koch said that, owing to the sanguinolent and putrescent character of these in the cases first examined, no conclusion was arrived at for some time. Thus, he found multitudes of bacteria of various kinds, rendering it impossible to distinguish any special forms; and it was not until he had examined two acute and uncomplicated cases, before hemorrhage had occurred, and where the evacuation had not decomposed, that he found more abundantly the kind of organism which had been seen so richly in the intestinal mucosa.

He then proceeded to describe the characters of this bacterium. It is smaller than the tubercle bacillus, being only about half or, at most, two-thirds the size of the latter, but much more plump, thicker, and slightly curved. As a rule, the curve is no more than that of a comma (,), but sometimes it assumes a semicircular shape, and he has seen it forming a double curve like an S; these two variations from the normal being suggestive of the junction of two individual bacilli. In cultures, there always appears a remarkably free development of comma-shaped bacilli. These bacilli often grow out to form long threads, not in the manner of anthrax bacilli, nor with a simple undulating form, but assuming the shape of delicate long spirals, a corkscrew shape, reminding one very forcibly of the spirochæte of relapsing fever. Indeed, it would be difficult to distinguish the two if placed side by side. On account of this developmental change, he doubted if the cholera organism should be ranked with bacilli; it is rather a transitional form between the bacillus and the spirillum. Possibly it is a true spirillum, portions of which appear in the comma shape, much as in other spirilla—*e.g.*, spirilla undula, which do not always form complete spirals, but consist only of more or less curved rods. The comma-bacilli thrive well in meat infusion, growing in it with great rapidity. By examining microscopically a drop of this broth-culture, the bacilli are seen in active movement, swarming at the margins of the drop, interspersed with the spiral threads, which are also apparently mobile. They grow also in other fluids—*e.g.*, very abundantly in milk, without coagulating it or changing its appearance. Also in blood-serum they grow very richly. Another good nutrient medium is gelatine, wherein the comma-bacilli form colonies of a perfectly characteristic kind, different from those of any other form of bacteria.

The colony when very young appears as a pale and small spot, not completely spherical, as other bacterial colonies in gelatine are wont to be, but with a more or less irregular protruding or jagged contour. It also very soon takes on a somewhat granular appearance. As the colony increases, the granular character becomes more marked, until it seems to be made up of highly refractile granules, like a mass of particles of glass. In its further growth, the gelatine is liquefied in the vicinity of the colony, which at the same time sinks down deeper into the gelatine mass, and makes a small thread-like excavation in the gelatine, in the centre of which the colony appears as a small white point. This, again, is peculiar; it is never seen, at least so marked, with any other bacterium. And a similar appearance is produced when gelatine is inoculated with a pure culture of this bacillus, the gelatine liquefying at the seat of inoculation, and the small colony continually enlarging; but above it there occurs the excavated spot, like a bubble of air floating over the bacillary colony. It gives the impression that the bacillus growth not only liquefies the gelatine, but causes a rapid evaporation of the fluid so formed. Many bacteria also have the power of so liquefying gelatine with which they are inoculated, but they never produce such an excavation with the bladder-like cavity on the surface.

Another peculiarity was the slowness with which the gelatine liquefied, and the narrow limits of this liquefaction in the case of a gelatine disk. Cultures of the comma-bacillus were also made in Agar-Agar jelly, which is not liquefied by them. On potato, these bacilli grow like those of glanders, forming a grayish-brown layer on the surface.

The comma-bacilli thrive best at temperatures between 30° and 40° C., but they are not very sensitive to low temperatures, their growth not being prevented until 17° or 16° C. is reached. In this respect, they agree with anthrax bacilli. Koch made an experiment to ascertain whether a very low temperature not merely checked their development, but killed them, and subjected the comma-bacilli to a temperature of —10° C. They were then completely frozen, but yet retained vitality, growing in gelatine afterwards.

Other experiments, by excluding air from the gelatine cultures, or placing them under an exhausted bell-jar or in an atmosphere of carbonic acid, went to prove that they required air and oxygen for their growth; but the deprivation did not kill them, since, on removing them from these conditions, they again began to grow. The growth of these bacilli is exceptionally rapid, quickly attaining its height, and, after a brief stationary period, as quickly terminating. The dying bacilli lose their shape, sometimes appearing shrivelled, sometimes swollen, and then staining very slightly, or not at all. The special features of their vegetation are best seen when substances which also contain other forms of bacteria are taken—*e.g.*, the intestinal contents of choleraic evacuations mixed with moistened earth, or linen, and kept damp. The comma-bacilli in these conditions multiply with great rapidity, so as far to outnumber the other forms of bacteria, which at first might have been in far greater abundance. This state of affairs does not last long; in two or three days, the comma-bacilli begin to die off, and the other bacteria to multiply. Precisely the same thing takes place in the intestine, where, after the rapid initial vegetation is over, and when exudation of blood occurs into the bowel, the comma-bacilli disappear, and putrefactive bacteria predominate. Whether the occurrence of putrefaction is inimical to the comma-bacilli has not been proved, but, from analogy, it is very probable. At any rate, it is important to know this for certain, for, if it be so, then the comma-bacilli will not thrive in a cesspit, and then further disinfection would be unnecessary. These bacilli thrive best in fluids containing a certain amount of nutriment. Experiments have not yet shown the limits in this respect, but Koch has found them capable of growing in meat-broth diluted ten times.

Again, if the nutrient medium become acid in reaction, their growth is checked, at least, in gelatine and meat infusion; but, singularly enough, they continue to grow on the surface of boiled potato which has become acid, showing that all acids are not equally obnoxious to them. But here, as with other substances which hinder their growth, they do not kill the bacilli. Davaine has shown that iodine is a strong bactericide. He experimented with anthrax bacilli in water to which iodine was added, and the bacilli were destroyed. But practically the organisms have to be dealt with in the alkaline contents of the bowel, or in the blood or fluids of the tissues, where iodine cannot remain in the free state. Koch found that the addition of an aqueous solution of iodine (1 in 4000) to meat infusion, in the proportion of 1 in 10, did not in the least interfere with the growth of the bacilli in that medium. He did not pursue this line of inquiry, seeing that in practice larger quantities of iodine than that could not be given. Alcohol first checks the development of the comma-bacilli when it is mixed with the nutrient fluid in the proportion of 1 in 10, a degree of concentration which renders it impracticable for treatment. Common salt was added to the extent of 2 per cent., without influencing the growth of the bacilli. Sulphate of iron, in the proportion of 2 per cent., checks this growth, probably by precipitating albuminates from the fluids, and possibly also by its acid reaction; certainly it does not seem to have any specific disinfecting action—*i. e.*, in destroying the bacilli. Indeed, Koch thinks that the admixture of sulphate of iron with fecal matter may arrest putrefaction and really remove what may be the most destructive process to the comma-bacilli. Hence, he would distinguish between substances which merely arrest putrefaction and those which are bactericidal: for the former may simply serve the purpose of preserving the infective virus. Among other substances which prevent the growth of the comma-bacilli may be mentioned: alum, in solutions of the strength 1 in 100; camphor, 1 in 300; carbolic acid, 1 in 400; oil of peppermint, 1 in 2000; sulphate of copper, 1 in 2500 (a remedy much employed, but how much would really be needed merely to hinder the growth of the bacilli in the intestine!); quinine, 1 in 5000; and sublimate, 1 in 100,000.

In contrast with the foregoing measures for preventing the growth of these bacilli is the striking fact that they are readily killed by drying. This fact is proved by merely drying a small drop of material containing the bacilli on a cover-glass, and then placing this over some of the fluid on a glass slide. With anthrax bacilli vitality is retained for nearly a week; whereas, the comma-bacillus appears to be killed in a very short time. Thus it was found that, although vitality was retained — depending largely upon the number of bacilli—for a short time, yet withdrawal of the nutrient fluid for an hour or even less often sufficed; and it never happened that the bacilli retained vitality after a deprivation lasting twenty-four hours.

These results would seem to point to the fact that the comma-bacillus does not, like the organisms of anthrax and vaccinia, pass into the resting state (Dauer zustand) by drying; and, if so, it is one of the most important facts in the etiology of cholera. Much, however, remains to be done, especially with regard to the soiled linen of cholera patients being kept in a damp state. He found that in soiled articles, when dried for a time, varying from twenty-four hours and upwards, the comma-bacilli were quite destroyed. Nor was the destruction delayed by placing choleraic excreta in or upon earth, dry or moist, or mixed with stagnant water. In gelatine cultures, the comma-bacilli can be cultivated for six weeks, and also in blood-serum, milk, and potato, where anthrax bacilli rapidly form spores. But a resting state of the comma-bacilli has never been met with—a very exceptional thing in the case of bacilli; and another reason why the organism must be regarded rather as a spirillum than a bacillus. For the spirilla require only a fluid medium, and do not, like the anthrax bacilli, thrive in the dry state. It is quite unlikely that a resting state of the comma-bacilli will ever be discovered, and, moreover, its absence harmonizes with our knowldege of cholera etiology.

(To be concluded.)

CHOLERA.—The British steamship "Bracadaile," from Calcutta, June 4, and St. Lucia (West Indies), August 16, is en route to New York with reported cholera on board. She lost eighteen out of twenty-eight cases before reaching St. Lucia, and had 651 coolies on board. No apprehension is felt regarding this vessel, as the health officer at New York is on the lookout for her.

RESECTION OF THE PANCREAS AND PYLORUS.—At the meeting of the Gesellschaft der Aerzte, of Vienna, on March 28, Dr. von Hacker presented a woman who had been operated on by PROF. BILLROTH, one month previously, for carcinomatous disease of the pylorus, involving the mesentery, intestine, and pancreas. The adhesions were torn or cut loose, and the affected portion of the pancreas was resected. The patient was quite well when exhibited.— *Wiener med. Wochenschrift*, April 5, 1884.

GASTROSTOMY.—The preliminary operation for gastrostomy was performed, on May 14, by MR. CHARLES MCNAMARA, on a woman, æt. 51 years, for obstruction of the œsophagus. The stomach was opened on the seventh day after the preliminary operation. The patient has thus far made a very good recovery, and can now swallow fluids.—*Lancet*, August 2, 1884.

YELLOW FEVER.—One case of yellow fever has been reported by Passed Assistant Surgeon Guitéras, of the Marine-Hospital Service, taken from the U. S. steamer "Galena," at Key West. Dr. Guitéras reports it as a sporadic case, and no danger is anticipated of the disease gaining a foothold at that port.

The cases taken from the schooner "J. Taylor," at Cape Charles Quarantine Station, were decided by Passed Assistant Surgeon Irwin to be Chagres or Panama fever—the death by fever of one of the crew before reaching quarantine was regarded as suspicious.

WHAT IS EXPECTED OF THE WASHINGTON INTERNATIONAL CONGRESS.—Our sprightly London contemporary, *The Medical Times*, says: "It is not to be expected that the Congress at Copenhagen will be as big or as brilliant an affair as the London Congress. To match that, or to 'whip' it, we must wait another three years, until the United States are given an opportunity of showing what they can do at Washington."

DR. OSLER AND THE CHAIR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA.—Our excellent contemporary, *The Canada Medical and Surgical Journal* (Montreal), in referring to the probable appointment of Dr. Osler to the Chair of Clinical Medicine in the University of Pennsylvania, says: "If Dr. Osler should finally accept this appointment, whilst recognizing its appropriateness, we could not but feel that his removal involved a serious loss both to McGill University and to this city."

Resigned from the Marine-Hospital Service.—Passed Assistant Surgeon John C. Fisher, of the U. S. Marine-Hospital Service, has resigned, to take effect September 30. Dr. Fisher was on duty at the Surgeon-General's Office, Washington, for nearly four years, and the service loses a valuable and faithful officer by his resignation.

The American Dermatological Association.—The eighth annual meeting of this Association will be held at Cranston's, on the Hudson, near West Point, on the 27th, 28th, and 29th of the present month. It is expected that the following papers will be read at the meeting:

A Case of General Idiopathic Atrophy of the Skin; A Case of Xanthoma Multiplex; A Case of Sarcoma Cutis (with supplementary account of a case previously reported), by Dr. W. A. Hardaway, of St. Louis.

A Clinical Contribution to the Study of Lupus Erythematosus of the Hand, by Dr. J. Nevins Hyde, of Chicago.

Suggestions Respecting the Treatment of Acne and Acne Rosacea in the Male Subject, by Dr. S. Sherwell, of Brooklyn.

A Case of Unilateral Chromidrosis, Cases of Arsenical Dermatitis, by Dr. James C. White, of Boston.

Dermatitis Herpetiformis: its Relations to Impetigo Herpetiformis, by Dr. L. A. Duhring, of Philadelphia.

On a Peculiar Scaling Affection of the Glans and Prepuce, by Dr. R. W. Taylor, of New York.

On Miliaria and Sudamina, by Dr. A. R. Robinson, of New York.

The Neuropathic Theory of Herpes Zoster. Is it Sustained by Clinical Facts? by Dr. Geo. H. Rohé, of Baltimore.

A Case of Late Cutaneous Syphilis (Acneiform Syphiloderm of the Nose), illustrating the occasional necessity of large doses of potassium iodide. A Case of Vitiligo Involving the whole Surface, by Dr. H. W. Stelwagon, of Philadelphia.

The Canada Medical Association will hold its annual meeting on Monday next at Montreal, and an unusually large number of attractive papers is announced.

The British Association for the Advancement of Science will meet in the same city on the following Wednesday, August 27.

The American Association for the Advancement of Science will meet in Philadelphia on September 4, and it is expected that upwards of four hundred of the prominent members of the British Association will be present, including Prof. Flower, of the Royal College of Surgeons, London; Mr. Alfred Godson, of Manchester; Mr. Alfred C. Haddon, Professor of Zoölogy in the Royal College of Science, Dublin; Dr. John McKendrick, Professor of Institutes of Medicine in the University of Glasgow; Mr. H. N. Moseley, Professor of Anatomy in the University of Oxford; and Mr. Lawson Tait, of Birmingham.

The International Congress of Hygiene assembled at the Hague on Thursday. Among those announced to deliver addresses were Dr. Pasteur, of Paris, and Dr. Stephen Smith, of New York.

The British Medical Association will hold its annual meeting in 1885 at Cardiff, and Dr. W. T. Edwards, of Cardiff, is the President-elect.

Sir Prescott Gardiner Hewett, Bart., F.R.S., has been appointed one of Her Majesty's Sergeant-Surgeons in Ordinary, in the place of the late Cæsar Hawkins.

Sir Erasmus Wilson.—At the meeting of the Royal College of Surgeons, on August 5, the large honorary gold medal was awarded to Sir William James Erasmus Wilson, in recognition of his liberal contributions to the Museum, the Pathological Curatorship, and in the foundation of the professorship with which his name is associated.

NOTES AND QUERIES.

SCHOOL FOR CHILDREN OF DEFECTIVE INTELLECT.

To the Editor of The Medical News.

Sir: The school for children of slowly developing intellect, alluded to in my letter to The Medical News last fall, was started with two pupils. The results have been so encouraging in these two cases as to lead Miss Bancroft to reopen in the coming fall. She will receive then boarding as well as day pupils. The number of the former will be limited to ten. Her qualifications for such a task are so unusual that I can commend her most unreservedly to the confidence of any who may need such a school for their patients or others. Her address is—Miss Margaret Bancroft, Haddonfield, N. J.

Yours truly,
W. W. Keen, M.D.

Philadelphia, 1729 Chestnut St.,
August 15, 1884.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 12 TO AUGUST 18, 1884.

Bartholf, J. H., *Captain and Assistant Surgeon.*—Relieved from duty at Vancouver Barracks, Washington Territory, and ordered to take station at Portland, Oregon.—*Par. 1, S. O. 114, Headquarters Department of Colorado*, August 1, 1884.

Heizmann, C. L., *Captain and Assistant Surgeon.*—Ordered to proceed to Fort Ontario, N. Y., and report for duty.—*Par. 3, S. O. 163, Headquarters Department of the East*, August 13, 1884.

Kane, John J., *Captain and Assistant Surgeon.*—Granted leave of absence for one month.—*Par. 1, S. O. 160, Headquarters Department of the East*, August 10, 1884.

Birmingham, H. P., *First Lieutenant and Assistant Surgeon.* Granted one month's leave of absence.—*S. O. 162, Headquarters Department of Missouri*, August 12, 1884.

Woodward, J. J., *Major and Surgeon.*—Died August 17, 1884.

The Medical News *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the News *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.
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ORIGINAL LECTURES.

SOME POINTS IN THE DIAGNOSIS BETWEEN PSOAS ABSCESS, ANEURISM, HERNIA, AND MALIGNANT DISEASE.

A Clinical Lecture delivered at the Hospital of the University of Pennsylvania.

BY JOHN ASHHURST, JR., M.D.,
PROFESSOR OF CLINICAL SURGERY IN THE UNIVERSITY OF PENNSYLVANIA.

(Reported by William H. Morrison, M.D.)

GENTLEMEN: The first case which I bring before you to-day is of great interest in regard to the question of diagnosis. I cannot say that I am absolutely certain in my own mind as to the nature of the case, although, after a very careful examination, I have come to a conclusion different from that which I at first entertained. This patient presented himself at the hospital one week ago with a large tumor of the groin which you now see. I made a hasty examination just before the last lecture, and my impression was that it was a case of malignant disease, probably sarcoma, with cystic degeneration, involving some of the glands of this region. Had I brought the patient before you then, I should have said, from the hasty examination which I had made, that this was a case of malignant tumor. After the lecture I examined the patient more carefully, and then found reason to change my opinion. At the same time, I say that the case is an obscure one, and I am not absolutely positive as to my diagnosis, although I believe that I have determined the correct nature of the affection. This will, however, be shown by the exploration which I intend to make.

The various affections which might cause a tumor in this position are: 1. A solid tumor, malignant or otherwise; 2. Aneurism of the upper portion of the femoral artery; 3. Femoral hernia; 4. A cyst of some kind; 5. A psoas abscess, originating either in the sheath of the psoas muscle, or having made its way into the sheath of that muscle gradually passing downwards until it appears in this situation; and, 6. Varix of the saphena vein, for which, however, this tumor could hardly be mistaken. The points on which we rely in making the diagnosis are partly anatomical and partly dependent on the results of careful examination.

Let us first consider aneurism of the femoral artery. Although this is in the course of the artery, I do not think that it is an aneurism. There is no pulsation whatever, which could hardly be the case in an aneurism as soft as this tumor is. There is no bruit. On placing my ear over the tumor, no sound is heard. In some positions of the tumor, there is a slight transmission of sound from the artery, but there is no characteristic bruit. There is no swelling of the limb, nor change in the pulse below the tumor. Finally, the artery can be traced on to the tumor to a certain extent, and then it seems to disappear beneath it. If this were an aneurism, we should probably find that it was more or less continuous with the line of pulsation above, although, of course, a sacculated aneurism might overlap the artery to such an extent as to appear to be a separate tumor.

Next, in reference to the points in favor of malignant growth. In the first place, the history points somewhat in that direction. The patient can give no cause for this swelling. He is aware of no injury which might have caused it. The only history is that it began as a small lump above and grew downwards. It was also a soft tumor. This fact would tend to show that it was not a malignant growth. If this were a sarcoma with secondary cyst, it would at first have been a hard tumor and the softness associated with the cyst would have been a secondary development.

Then as to the question of hernia. This is not in the position of a femoral hernia. The hernia comes down on the inner side of the femoral vessels, and when it is strangulated the constriction is at the junction of Hey's and Gimbernat's ligament. Tracing this tumor upwards, I find that on the inner side of the femoral vessels, Poupart's ligament is perfectly distinct, but on the outer side of the vessels there is a marked extension of the swelling, which is very tense, elastic and fluctuating, and which has passed a little above Poupart's ligament. This of itself would negative the idea of femoral hernia. On the other hand, we know that psoas abscess comes down in the sheath of the muscle, often pressing the fibres of the muscle apart, and is almost always found on the outer side of the vessels. Here then is an anatomical point which would lead us to think that this was an abscess. There is another symptom present which is observed in both hernia and abscess, that is, a marked impulse is transmitted to this tumor when the patient coughs. This I cannot show to you now as the patient is under ether. This was the first point which diverted my mind from the theory of malignant growth. This is seen in hernia and in any large abscess originating in the abdominal cavity. A solid tumor situated below Poupart's ligament would not receive an impulse from coughing. This point leads us almost certainly to hernia or a collection of fluid, and the anatomical point in regard to the position of the tumor in reference to the femoral vessels would exclude hernia.

Our diagnosis is therefore narrowed down to either psoas abscess or a cyst of some kind originating within the abdomen. It might be a hydatid cyst, for these are found in all parts of the body. There are, however, some points which favor abscess rather than a cyst of this kind. One of these is the œdema over the prominent portions of the tumor. This is very significant of abscess. The tumor is then evidently pointing. In this the tumor has changed its appearance since last week; there are now several prominent nodules, like grapes, which were not present a week ago. They were rather more prominent two days ago than they are at present. By carefully feeling them, I can satisfy myself that at these points the subcutaneous fascia has given way, allowing the fluid to come to the surface. There are three or four points at which the swelling is beginning to point, but these are becoming fused together. If the swelling were left alone, it is probable that in two days more there would be only one large nipple-like process.

The tumor extends downwards to a considerable distance and is elastic at all points; last week it was much more solid. It appears to be limited to the position of the adductor group of muscles. I believe that this is a collection of pus beneath the muscles pushing them forwards.

There is one other point to which I may call attention. In psoas abscess, we often have a large collection of pus above Poupart's ligament and a small one below. In the present instance, the collection below is larger, but at the same time there is a fluctuating tumor in the iliac fossa, above the ligament. When I press upon the upper one, I find that the tension of the lower swelling is increased.

As I have said, after a careful examination and a consideration of all these points, I have come to the conclusion that this is a psoas abscess. I, however, can find no cause for such a condition. There is no evidence of spinal disease, and the patient is able to walk very well. Abscesses sometimes originate in the sheath of the psoas muscle from some irritation or from external influences without any connection with bone disease. When the abscess results from disease of the spine, it is, as a rule, better to let it alone. If there is no disease of the bone, or if such disease has apparently been cured, for abscess may remain as a sequel of disease of the spine, you may open the abscess and adopt some means to prevent a continuance of the suppuration.

What I propose to do first, is to confirm or disprove the diagnosis by the use of the exploring-needle. I am not very enthusiastic in the use of this instrument, for I believe that the surgeon should be able, in most cases, to make the diagnosis without it. At the same time, when the diagnosis is sufficiently formed to enable the surgeon to determine upon a plan of treatment, the needle may be used. If I were in doubt as to whether this was an aneurism or an abscess, I should hesitate to use the exploring-needle, because, although it would clear up the diagnosis, it might injure the patient. In the same way with hernia. If I thought that this might be a malignant tumor, I should hesitate in the use of the exploring-needle, unless I was prepared to adopt some radical measures for its removal. In aneurism, the use of the needle weakens the wall of the sac and increases the danger of rupture. In malignant growth, the needle produces irritation and probably increases the rapidity of growth. I think that the surgeon should not introduce the needle, unless he is prepared to do something further, if not immediately, at least within a short time.

If a few drops of pus follow the introduction of the exploring-needle, I shall introduce the aspirator, and if the instrument will work satisfactorily, remove the fluid with it. If this does not succeed, I shall make a small opening and get rid of the pus in this way. Having removed the pus, I intend to inject the cavity with a solution of carbolic acid (one to thirty) to hyperdistention, as was recommended by the late Mr. Callender. The object of this is not to carrry out any antiseptic method, and the advocates of the so-called antiseptic mode of treatment would not accept it as an antiseptic measure. The late Mr. Callender recommended this plan of treatment for the purpose of producing a healthy stimulation of the walls of the abscess, to increase the likelihood of healing, and, perhaps, prevent the recollection of the pus. I have used this method on several occasions, and usually with satisfactory results. If there were active disease of the spine, however, such treatment would be of little use, because the abscess would soon refill.

If I find no pus, I shall proceed no further at present, and the question will then arise whether or not we shall attempt to remove the tumor. I do not think that such an attempt would be advisable, for the tumor evidently extends into the abdomen. I, however, have as firm a faith as it is possible to have without sight, that we shall find pus.

I now introduce the exploring-needle, and at once pus, of the character found in a cold abscess, escapes. I shall now introduce the canula of the aspirator, but, as you see, the tube soon becomes clogged with some shreds of broken-down tissue. I shall therefore be compelled to make an opening with a bistoury. The opening that I make is a very small one. A large quantity of pus is escaping.

This ought to be a very instructive case to you. As I have already said, if I had brought this patient before you last week, after the hasty examination which I had made, I should have said that it was a case of malignant tumor, simply because I had not made a thorough examination. A careful examination satisfied me that in all probability it was an abscess. The neglect of this thorough examination would have led to an error of diagnosis. The anecdote is told of the Russian surgeon, Pirogoff, that on returning from a long journey through the cold he found in his waiting-room a patient with a fluctuating tumor in the region of the axilla, and suffering intense pain. It was, apparently, a large abscess. Desirous of giving relief as soon as possible, he introduced a knife, and a free flow of arterial blood followed. He had opened an aneurism. Mistakes of this kind have been made by the most eminent surgeons. But I believe that Mr. Holmes is right in saying that the mistakes have been due to the omission of some point of a careful examination. I would not say that the surgeon should never make a mistake, but we can say, from a study of the cases in which a mistake of this kind has been made, that some point has been omitted in the investigation. It is not the fault of Nature, but the fault of the surgeon who misinterprets Nature, that these mistakes are made.

I am now getting to the end of this collection, for blood is beginning to appear. Sometimes, if you continue, you can in these cases get pure blood from the wall of the sac. In making pressure, it is better to use a sponge than the unprotected fingers.

I am now ready to wash this out. The injection is made with an ordinary gum bag, holding about six ounces. The first bagful of fluid will be pressed out, but in the remaining injections the fluid will be allowed to remain, and we shall distend the sac to a greater extent than it was distended before it was opened, so that the liquid shall come in contact with every part of the interior of the cavity. The liquid will then be again carefully pressed out, and a simple dressing applied.

If, in spite of this treatment, the pus continues to collect, I shall probably make a counter-opening, and introduce a drainage-tube. We shall probably prevent the reformation of pus to a certain extent by the use of this injection.

Having removed the carbolic acid solution, the opening is dressed with a little oiled lint, covered with oiled silk; a compress of oakum is placed over it, and a spica bandage is applied in order to make slight pressure. The bandage is put on with the limb somewhat flexed, so that when it is straightened the pressure will be increased.

ORIGINAL ARTICLES.

ON TUBERCULOSIS OF BONES AND JOINTS, AND ITS TREATMENT BY IGNIPUNCTURE.

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I DESIRE to begin my paper with a few general propositions, to be elaborated in its course as far as time and space may allow.

1st. Many affections of bone essentially inflammatory in their nature are considered to be simply affections of the periosteum, or are ascribed to rheumatism, or are overlooked until irreparable damage has been done.

2d. Excluding rheumatism, syphilis, and malignant disease, the great majority of chronic bone affections either have tuberculosis as their immediate cause, or else during their course acquire a tuberculous character by appreciable pathological processes.

Indeed, one might almost paraphrase Niemeyer's dictum of a few years ago, and say—"The chief danger for anyone suffering from bone disease is that it may become tubercular,"—supposing, of course, that it was not originally so.

3d. Certain of the *acute* bone diseases have so much of the tubercular character that we cannot well separate the two—*e. g.*, acute osteomyelitis.

4th. Accepting phthisis pulmonum as the commonest type of tuberculous disease, we shall find remarkable resemblances between diseases of this type in bone and lung, just as there is remarkable resemblance of anatomical structure. Mr. Savory has shown[1] this to advantage. The cancellous structure much resembles the parenchyma of lung-tissue; both are eminently spongy. In both a vascular halo surrounds the mass of tubercle, and in each, by the breaking down of deposit, a cavity is formed. The pleura bears much the same anatomical resemblance and physiological relation to the lung that the synovialis does to the bone-end; just as pleuritis is set up in phthisis, so is synovitis in tuberculous ostitis; just as adhesions tend to form in the pleural cavity, so do they in the synovial also; just as obliteration of internal veins causes prominent subcutaneous veins about the chest, so are the superficial veins enlarged about a tumor albus; just as a tubercular pleuritis may lead to an empyæma with all its disastrous consequences, so may a tubercular synovitis lead to a pyarthrosis (empyæma of the joint) with fungous ulceration and the like. In almost every feature, then, are the variable progress and effect of tubercle in bone and lung alike. Furthermore, as in the larger number of cases the tubercular affection seems to locate by preference in the extremities of the lungs—*i. e.*, the apices, so do we find that in bones it is most common in the vicinity of joints.

Despite the teachings of many English and American writers, I think we are compelled to acknowledge that the majority of chronic joint affections take their origin from diseased bone in their neighborhood. Barwell and others would have us understand that in morbus coxæ, for instance, the primary trouble is usually a synovitis; but it seems to me that a careful study of early symptoms and anatomical appearances must lead us to accept the views and teachings of the German and French writers, who, like Volkmann, Koenig, Kocher, and Lannelongue hold in striking accord that most of these joint troubles begin, not as arthropathies, but as osteopathies, and are preceded by a well-defined ostitis or osteomyelitis.

Various forms of primary bone trouble may lead to fungous joint disease; most frequent is fungous ostitis, which spreads by continuity of structure along the periosteum and capsular insertion. If it be a suppurative ostitis (which is less often observed, and may be mistaken for a suppurative osteomyelitis or "ostitis profunda"), it will usually occur at an age when the epiphyses are still well marked, and will then lead to purulent infiltration of the same with only a collection of serum in the joint, though perforation *may* ensue. Chronic suppurative osteomyelitis gives rise to the same condition by spreading, from continuity of structure, along the periosteum, or else, more rarely, perforation into the joint occurs. So, too, may a suppurative periostitis give rise to a condition much resembling the above. In all forms the joint affection increases in severity *pari passu* with the primary bone disease. Finally, the joint may be involved purely through necrosis of a bone-end, usually central. The more chronic the bone disease, the more likely it is to be masked by the more conspicuous joint affection; whereas, the more acute the inflammation in the bone, the more likely is it to be recognized. Moreover the disturbance in the joint may take place very early, even almost before the periosteum has become involved.

In other words, the most common primary alteration in bone is that known to the Germans as "ostitis fungosa." The cancellous structure is softened, the number of bony trabeculæ notably reduced, and replaced by a soft, vascular, young connective tissue. The extension into the joint is made by perforation by a similar process.

How one may recognize primary, but chronic ostitis of joint-ends is an important question. It is known that there are certain points of tenderness most frequently met with about inflamed joints. Naturally, points of peculiar sensitiveness to pressure are also symptomatic of osteal trouble. So it is well to emphasize that circumscribed ostitis commonly occurs at those points to which attention has been thus called; the internal condyle of the femur, the external condyle and greater tuberosity of the humerus, the internal malleolus, for example. Moreover, the nearer the local affection to the joint surface the greater will be the sympathetic disturbance. Sometimes incapacity or limitation of motion is the first sign which attracts attention. Sooner or later atrophy of muscles becomes a prominent and diagnostic feature. I think it is now universally accepted that no bone trouble can long persist (with certain rare exceptions) without atrophy of soft parts as an accompanying feature, though sufficient stress is not laid upon the fact in the common teaching of the subject. As a rule, too, a joint may be incapable of actively functionating, even to a diagnostic degree, and yet permit a wide range of passive motion.

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[1] Lancet, November 4, 1882.

5th. I would emphasize the diagnostic significance of "starting" (osteocopic) pains at night; these are too often confounded with those of syphilis, but are to be differentiated by the entire absence of the other signs or symptoms of specific disease.

As the primary ostitis progresses, the symptoms of ordinary synovitis are added to those already present. Such a synovitis is peculiarly stubborn, though, perhaps, intermittent. This is even true to such an extent that when an apparently chronic synovitis (hydrops articuli) becomes intermittent there is good reason to suspect a bone lesion behind it. To this fact Roser has called particular attention. In such a case, with each slight exacerbation there is an obstinacy to treatment that seems most surprising.

Inside of the joint suppuration or proliferation may take place, at times, with very little apparent disturbance. Fluctuation can be detected, but tension is not greatly altered, and pressure is not more painful than before, perhaps even less so. At times the capsule seems no thicker than before, but in certain cases a large amount of thickening can be made out.

According to the nature of the bone lesion is the swelling; usually a more or less hard local elevation caused by periosteal thickening is felt. But when the primary lesion is near the surface and has lead to a suppurative periostitis, we may have a fluctuating swelling marking well its position; a (cold) abscess thus resulting will most always be very tender to pressure.

Another occasional symptom of the disease under consideration is the repeated formation of abscesses, which sometimes break spontaneously and heal, sometimes leave fistulous openings. Surely the picture of a tumor albus with one or several fistulæ is a familiar one to all. No attempt is made here to deny that abscesses may and do result from well-defined synovial inflammation, but they are *very* rare.

Finally, I will only here mention those muscular contractions by which the joint-ends are not only firmly pressed together, but kept in position most favorable for anchylosis, and by which great deformity and subluxation are produced.

When we come to discuss the causes of osteal inflammation, so often tuberculous, we have, first of all, to note this fact, that probably nine out of ten of them occur in patients of a tubercular (scrofulous) diathesis.[1] Just as we would give a more guarded prognosis were a scrofulous individual to have a chronic cough, and would redouble our efforts to conduct, in his case, a pneumonia or a pleurisy to a successful resolution, just so should we feel doubly anxious in case of injury or inflammation to the bones of similar individuals.

Undoubtedly in the list of causes trauma plays the most important *rôle*, either as a direct injury or as a disturbance to the nutritive supply from the immediately enveloping soft parts. A sprain or a dislocation may in this way be ample cause. Any disturbance, too, of the insertion of the capsule is a frequent cause of trouble.

Next to trauma, perhaps, stands syphilis, of which we have in this place little to say. And as further causes, if we may so denote them, are pregnancy and the puerperal state, and the condition, often one of marasmus, following the continued fevers and exanthemata. For instance, I have seen acute, and almost fatal, osteomyelitis of several long bones follow exposure during the menstrual epoch; another almost as severe case was a sequel of typhoid fever; and I have had to resect a knee-joint for a typical tuberculous trouble the first symptoms of which were presented during the fifth month of a first pregnancy, which got worse in spite of all treatment, so that the propriety of inducing premature labor was even seriously discussed in consultation, which improved as soon as labor terminated, but relapsed as soon as the illegitimate child was permanently removed from the breast, the whole case being similar to those which Barwell has described. But in each of these cases there was a well-marked diathesis and a deplorable history of family phthisical taint.

It is very evident, of course, that I am basing my pathology of the complaints under consideration on the tubercular basis. It is amazing to me that when continental authorities generally accept this idea so firmly, and not only base upon it their theories but their successful therapeutics, it finds such tardy recognition in the standard English and American text-books. What American text-book speaks of it in any but the most non-committal way? Take, for example, Agnew's *Surgery*, the latest representative American work; the author devotes a section to "Strumous Inflammation of Articular Extremities of Long Bones," in which he describes the ordinary naked-eye appearances of a fungous joint, divides the symptoms into three stages, and after saying a few words about the prognosis goes on at once to the treatment. Never a word about tuberculosis of bone as such. Nor elsewhere in the work can I find any information on the subject calculated to satisfy a searcher after knowledge. What author of a work in our tongue has the frankness to state that most all of our cases of hip-joint disease, for example, are due to that which really causes them—*i. e.*, tuberculosis of bone.

The latest representative English work is, of course, Holmes's *System* (London, 1883). This is more satisfactory, provided only that one finds the right places, the article by Shaw and Barker being most so. And yet in this same work we find the editor himself saying (vol. ii. p. 304, note) "my opinion is that many of the deposits which are usually regarded as tubercles are masses of inspissated pus mingled with other inflammatory products, and that, rare as tubercle in bone is generally said to be, it is in reality still rarer." He then quotes Macnamara as holding more to the views already expressed in this paper, and adds: "Some of the German pathologists appear to regard every inflammatory production in which 'giant cells' and a 'reticulum' can be found as tuberculous, and then go on to assume for this tubercular product an auto-infecting property. All this, however, appears to me to rest on the slenderest basis of fact."

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[1] *Vide* paper by Gibney, N. Y. Med. Journ., July, 1877, p. 6.

For our own part, while we call in question the statements of such an authority as Mr. Holmes with extreme diffidence, it is yet impossible to disbelieve the evidences of one's senses, which teach that tuberculous products do possess the extremely auto-infectious properties recognized by the continental authorities. As far as the writer's opportunities for observation have extended, it has seemed that the so-called strumous lesions of bone as well as of other parts were both more common and more carefully studied on the Continent than in Great Britain. A review of the literature of the subject leads one, also, to the same conclusion.

If, moreover, the presence of the *bacilli tuberculosis* counts for anything, it is proper here to state that the writer, like numerous observers abroad, is usually able to find them in the *débris* or pus from various bone and psoas abscesses, fungous joints, fistules, sinuses, etc., which he has thus learned to regard, and always to speak of as "tuberculous." And if failure to find the bacilli results in a certain percentage of efforts, in such broken-down material, we must not forget that it *is* broken-down, and often quite old and changed before the surgeon liberates it; which being the case, failure must necessarily at times result.

And here, even at the risk of being tedious, I think it well worth while to speak of the manner in which the specific microörganisms of tuberculosis play the part now assigned them as specific irritants. And in so doing, rather than use words of my own, I prefer to draw from the article by Shaw, and revised by Barker, above alluded to.[1] If this explanation is true for caries of the spine, it holds equally good for the other bones or parts of the body. I quote:

> "The exponents of this view regard scrofula as a definite septic disease, characterized by proneness to low inflammation of the growing tissues of the body, the result of irritants introduced from without, and circulating in the blood. . . . These organisms taken up by the lymph radicles in the first place, are for the most part strained off, as it were, in the nearest lymphatic glands. It is by their aggregation and multiplication here that those cheesy masses so often found in glands—*e.g.*, of the neck, are supposed to be formed (Billroth). These caseous masses then are no longer regarded by pathologists holding this view as products of inflammation with secondary fatty degeneration, as first described by Virchow, but simply as colonies of microbia. They may, and usually do, eventually produce an inflammatory condition around them, but the material of which they are composed differs chemically and microscopically from the products of inflammation. Many of the microbia, however, are supposed to escape the straining action of the glands and thus gain admission to the general circulation. Arriving thus with the blood in the capillaries of the growing tissues, they not only interfere by blockage with the vitality of the latter, but act as direct irritants, producing either chronic congestion or (if agglutinated in large numbers) actual so-called cheesy deposits. These may then induce inflammation around them and themselves soften. . . . This aggregation of micrococci is held to be favored in bone by the arrangement of its vessels in wide lacunæ; hence the frequency of strumous disease in bone. . . . Particles of the cheesy deposit may be thrown off into the circulation, and be carried into some of the capillaries at a distance. Here they give rise to irritation and exudation of white blood-corpuscles, which form around them soft miliary granulations to which the name '*tubercle*' is given."

This explanation is not quite so complete as it should be made, but I give it because it is so refreshing to find it incorporated into any *text-book* in our language.

To this I would add that Weigert, perhaps more than anyone else, has helped to give explicitness to this fact of capillary embolism of tuberculous material. More than this, it is the only rational explanation which can be given of many cases of idiopathic caries of bone.

But I have said enough to outline and emphasize the more recent and soundest views concerning tuberculosis of bone and its frequency, and to serve as a basis upon which to construct, if possible, a rational therapeusis.[1] And first I must insist that tuberculosis when still a local disease is amenable to treatment, and can be—nay, frequently *is*—cured. We even know a pseudo-recovery from phthisis pulmonum. It is so difficult to cure partly because of the dissemination of the specific irritant, partly because of its frequent inaccessibility. But we know that superficial tubercular lesions accessible to the knife or the sharp spoon are very frequently cured; when failure results the effort is to blame. Furthermore, we know that many tubercular foci in the bones can be made accessible to the surgeon and then cured by the removal of all the local disease. We know also that Nature often effects a cure, sometimes by a reactionary inflammation, which leads to the death of the germs and absorption of morbid tissues, and sometimes by, so to speak, organizing a sanitary cordon around the tubercular focus—*i. e.*, encapsulating it thoroughly. We must then study in what way we can either bring these foci of disease under the surgeon's hand, or else stimulate and compel Nature to assume a belligerent attitude against her unseen enemies.

And here we gather instruction from studying what takes place under other circumstances. If I apprehend the general principles of surgical therapeutics aright, the surgeon never achieves so rapid and radical a cure of a chronic inflammation or its results as when he more or less completely replaces it by an acute one. Compare the radical treatment of hydrocele, which is certainly a chronic condition; whether the sac be emptied, or injected with carbolic acid, or be laid open by the bistoury, the result is the same—an acute inflammatory condition supersedes the chronic one, and recovery by obliteration of the sac follows. So in opening a joint for chronic hydrarthrosis, so in drilling or wiring bone for ununited fracture; so, too, in numerous other affections.

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[1] Holmes's System, 1883, vol. ii. p. 405.

[1] So far as I know, Prof. H. H. Smith, of Philadelphia, was among the first in *this* country to give prominent public expression to sound pathological views concerning tuberculosis of bone. *Vide* his address on Surgery and Anatomy, Transactions Amer. Med. Assoc., 1878.

Inasmuch, however, as the balance of this paper is to be devoted to the discussion of a single therapeutic measure let me say here that I am in the fullest accord with, in the first place, the general principles of treatment by insuring physiological rest, constitutional remedies, etc., and in the second place with the plan of radical and early treatment of foci of softening, when recognized, by the knife, the curette, or the hammer and chisel; but since we can now often detect these forms of ostitis before they have caused such disorganization, we need especially to find some measure which shall lead, if possible, to resorption of those products of inflammation already present; and this measure I think we have found in that which for some time has been known abroad as *Ignipuncture*.

Ignipuncture simply means an application to the interior of the bone substance of the actual cautery in some form. It is unnecessary to stop here to describe how acute inflammation for a certain distance around must follow the application of the heated metal to any spot; the slightest experience with its use demonstrates that. On this principle is based the treatment by ignipuncture, and the success following it justifies its use.

It may be suggested that anything else which serves to set up a reactive and acute ostitis would be sufficient to cure a chronic form of the same, and this certainly is the case. Kocher, for instance, had a typical case of chronic ostitis of the head of the humerus which he treated by making an incision down on to the greater tuberosity, drilling the bone, and driving in an ivory peg. Examination six months after showed a good and actively movable arm, a joint almost perfect in its functions, and only a little fluctuating spot at the site of the operation. This was incised and the little ivory plug found almost in its integrity; the peg was removed, the incision readily healed, and perfect recovery followed.[1] With a view to setting up speedy reactive processes, Kocher and others have also drilled holes in diseased bone and filled them with strong tincture of iodine, and with good results.

But long before these observations Percival Pott had shown the value of deep-seated counter-irritation. He placed particular stress on the formation of issues extending deeply, and well knew their value in that form of caries of the vertebræ called by his name.[2] Much in the same direction was the much more recent effective, but clumsy effort of Fitzpatrick, who, in a case of tubercular caries of the hip-joint with great atrophy, made a *deep* issue with the caustic potassa fusa cum calce. By thus perforating the bone shell the softened tubercular *débris* was evacuated, and in seven weeks the contour of the limb was restored and the patient could walk.[1]

But these methods are all more severe than that now to be described. The actual cautery has been known from ancient times, and its use during the long centuries past has been at times quite wise, and at times quite otherwise.

Richet was among the first to make the cautery actually penetrate to the bone-marrow. His observations, which were never published in full, are best known to us through a brochure pertaining to the subject published by Juillard in 1874.[2] Juillard himself strongly recommends it, and devised a special galvano-cautery point for the purpose. Kocher, to whose casuistic I owe my first knowledge of the subject (*l. c.*), began its use independently of Richet's work, in 1872, perhaps even preceding him, and devised his own forms of cautery irons. Lücke began with the thermo-cautery, and this is the instrument now in use, so far as I know, wherever ignipuncture is practised.

In general terms we may hold that ignipuncture is indicated in all cases of chronic ostitis where fluctuation and sinuses or other indications of points of softening and breaking down do not call for the curette or chisel; and in many cases even after removal of products of softening the cautery can still be used to advantage to stimulate surrounding bone into a normal activity. Its application may be *intraosteal* or *intracapsular*.[3]

If the former, the glowing platinum is either plunged through the skin and soft tissue right down to the bone and into its substance, or else an incision is made through a part or the whole of the soft parts since it is not so much disturbance of these latter which is primarily aimed at. Antiseptic precautions and dressings are of course indicated, and if the incision has been a large one it may be partially closed, but ample opportunity must be given for drainage so long as may be necessary. When combined with other operative measures a depot of softening may be cut down upon, its contents removed, the sharp spoon used as indicated, and from this bone cavity the cautery point may be made to perforate in different directions. The bone exposed to intensest heat is burnt into a crust; around this takes place an active inflammation which leads first to an osteo-porosis, and later to an osteo-sclerosis, which means virtual recovery. As I have already tried to show how often a primary bone lesion leads to a serious joint complication, it will be seen that the intraosteal ignipuncture may have a most important prophylactic effect as against the same; in fact, my own experience has taught me its value in this respect.

Intracapsular ignipuncture may be made either with or without previously opening the joint. If the joint is supposed to be in a fungous condition it should certainly be opened and cleaned out, but if it seems to be merely a lesion in a bone-end lying so close to the joint surface that it can only be approached by going through the joint, then no hesitation need be felt in burning right through the capsule and its cavity into the bone; only being doubly careful about the antiseptic precautions. Lücke does not hesitate to lay the joint freely open. If the joint surface is healthy and only bone is diseased, joint reaction is unlikely to occur. This measure is also said to be serviceable in chronic rheumatic and other forms of synovitis, though I have had no personal experience with it in such cases.

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[1] Volkmann's Saml. klin. Vort., No. 102, p. 33.

[2] Chirurgical Works, vol. iii. p. 416 et seq.

[1] Biennial Retrospect, New Sydenham Soc., 1867–68, p. 261.

[2] Bulletin de la Société Méd. de la Suisse Romande, 1874.

[3] Deutsche Chirurgie, Lfg. 19, 1880, p. 231.

In every case in which I have resorted to it I have administered an anæsthetic, though Kocher states that he seldom gives one. The actual cautery used in this way and with the avowed purpose of securing, not a "derivative" effect, whatever that may be, but a speedy and acute reactionary inflammation, is to be considered quite apart from the vigorous counter-irritation which so many, like Syme for instance, have sought to induce by the moxa or any external application of cautery or issue. It has been, as stated, in use in a few of the foreign clinics for ten or twelve years. If it has ever with us been employed as *ignipuncture proper* previous to the time when I began using it late in 1882, the accounts of its use have never met my eyes; so that I am, as far as I now know, the first in this country, if not to try it, at least to make a practice of and recommend it. So far as my own experience goes, the first result of its use is a speedy relief of the characteristic ostitic pains; tenderness on pressure disappears later.

For the purpose of showing what the treatment is capable of accomplishing, I put on record the following cases selected from a not large but steadily increasing number of more or less similar ones recorded in my case-books.

CASE I. was a most typical case of ostitis of the internal condyle. J. B , æt. twenty-one. Scrofulous diathesis. History of trouble dates back three months. Had been in a hospital a part of this time and under treatment by iced applications, rest, etc. He was admitted into the Michael Reese Hospital, Chicago, when I found on his admission marked enlargement of the internal condyle of the femur to such an extent as to deflect the leg notably to the outside of its proper angle with the thigh. It was extremely tender, gave him much pain, especially at night, and rendered the leg useless. Beyond a moderate effusion into the joint there was little or no joint affection proper. On February 23, 1883, I made a single ignipuncture, directing the cautery point into the centre of the area of tenderness, and burning in about 2 cm. (⅘ inch) below the bone surface. Iodoform dressings. All pain at once subsided. By April 9th the enlargement had disappeared, the leg resumed its normal position, and he could walk without pain. A week later he was discharged cured. During the months following I often met him on the street, and he always assured me of his perfect health.

CASE II.—J. A., æt. fifteen. Scrofulous diathesis. Early in February, 1883, the patient took violent exercise while skating, was exposed in severe weather, and came home lame and tired out. This was the history I got when, a month later I took charge of his case and diagnosticated an acute osteomyelitis of both femurs, particularly of the left, with great sympathetic disturbance of both hip-joints. Indeed, so severe was the joint complication that the surgeon previously in attendance had lost sight of the primary cause and considered his case one simply of severe hip-joint disease. For a few weeks I kept him on supporting treatment, insured physiological rest by traction, employed counter-irritation—in a word, resorted to the routine treatment. All this time there was exquisite tenderness, of the left limb down nearly to the knee, of the right not so far, while suppuration had once or twice seemed imminent, and so widely were the bones affected that much of the bony pelvis was in the same condition. His sufferings were severe and called for anodynes.

Gaining at last the parents' consent, I had him removed to the Reese Hospital, where on May 3d I made ignipuncture by first incising down to the left trochanter major, and then burning into the upper end of the shaft of the femur and in the direction of the axis of its neck, going in fully 3 cm. (1⅕ inch). At the time of operating the bone could be felt to be fully a half thicker than its normal proportions, and in spite of the atrophy of the soft parts, which was considerable, the left thigh measured, near the pelvis, fully 2 cm. (⅘ inch) more in circumference than the other, while the bone of the other side was also thicker than it should have been. By May 5th he was free from pain except on the other side. By the 18th both thighs measured the same in circumference and he was quite comfortable. By the 28th the ostitis of the pelvic bones seemed to have nearly subsided save just at the pubis; he also complained of a painful and tender spot on the inner side of the left femur above the knee. So I again anæsthetized him and ignipunctured at the pubis, at the site of the first operation and just above the knee. Pain was again relieved. In three weeks he was up in a rolling chair; by the last of July he was around on crutches and could bear nearly his whole weight on his left limb; his joints were more or less stiff, but by passive motion he was daily regaining their flexibility.

CASE III.—Lizzie F., æt. twenty-six. Patient has a marked family history of tubercular trouble; she has also had syphilis. In the spring of 1882 she had sacro-iliac disease on one side, for which she was kept in bed four months, with enough traction on the limb to enforce rest. By autumn she was in her usual health, except that she was troubled, as she had been for years, with leucorrhœa and with occasional muco-purulent discharges from the rectum; the rectal difficulty I considered to be an ulceration high up. For this last she had been under intermittent treatment, but her irregular and dissolute life prevented any systematic attempt to cure it. January, 1883, after a prolonged dissipation she had a relapse of the old sacro-illiac disease, and the trouble extended so as to involve more of the pelvis and the upper end of the femur. At that time I diagnosticated tuberculous disease of the ilium, tuberosity of the ischium and femur. In spite of rest, anti-specific and supporting treatment and counter-irritation, her malady continued to aggravate, so that I finally suggested ignipuncture. In this advice my friend Dr. Ernst Schmidt, of Chicago, coincided; he having been cognizant of the results gained in Cases I. and II. above.

Therefore April 26, 1883, I chloroformed the patient, and after incising down to the bone I ignipunctured the trochanter major deeply and the posterior superior spine of the ilium less so. Iodoform dressings. This case, to our surprise, did badly. Within twenty-four hours she was irritable and irrational; on the third day she had lost all self-control, though her temperature was normal and the wounds in excellent condition. On the fourth day she was comatose, and from this coma she never aroused. Her temperature rose steadily, her respirations became more frequent until they were forty to the minute, with a pulse of one hundred and sixty, and she died on the eighth day with a temperature of 41.2° C. (106⅛° F.), respirations sixty-two, and pulse one hundred and sixty-five. Here was probably an acute general miliary tuberculosis with strongly marked meningeal implication. To my great regret, no autopsy was allowed. Whether tubercles were already deposited in the meninges, and the anæsthesia and operation together simply provoked a general eruption of tubercle already imminent, or whether my cautery point opened into a fresh mass of infectious granulations as well as into absorbents ready to sweep these fresh products into the general circulation, I cannot say. As between acute miliary infection as ordinarily known, or a fresh tubercle embolism corresponding to fat embolism, I could not positively decide. Either one or the other, perhaps both, must have taken place. Her family history, evident diathesis, specific disease, and dissolute life, were causes amply sufficient to make tenable either hypothesis. At all events, though this case was not a success, it did not shake my confidence in ignipuncture as a remedy and a prophylactic; it only made me wish I had used it much earlier.

CASE IV.—Fanny H., æt. twenty-four. Tubercular diathesis. January, 1883, while menstruating for the first time in three months, she "caught cold," and the following day had a rigor followed by high fever and excruciating pain in her lower limbs. She gave in fact a typical history of acute osteomyelitis such as I have referred to briefly above, and which, as so often occurs, was not properly diagnosticated and treated. She was at that time in Minnesota and was treated for three months by her attendants for "rheumatism" before bone trouble was discovered. After she had been sick two months an abscess of the right thigh was opened, and has since continually discharged; another abscess on the thigh was opened, and then closed spontaneously. After some five months' illness she was brought to Chicago and placed in a private room at the Reese Hospital where, at request of Dr. Mannheimer, I first saw her.

June 1, 1883. *Status præsens:* General condition fair, except that she is very weak; bowels irregular; no menses since the time when she caught cold. She is helplessly confined in bed. Both femora enlarged throughout their entire length to the thickness of the middle of my forearm. Abscess on the outer side of right thigh discharging all the time. Inner condyle of right femur so enlarged as to throw the leg far out of its proper line, and, with the knees together, keep the feet at least twelve inches apart. Right knee quite stiff; very limited motion in left knee and both hips. Tissues all around the thighs and knees indurated and boggy. Pain continuous, but variable; anodynes in frequent requisition. In this case also I had the advantage of counsel with Drs. Schmidt and Mannheimer.

On June 9th I anæsthetized her and operated under the spray as follows: I made an incision on the outer aspect of the right thigh, some 25 cm. (10 inches) long, down to the bone, the periosteum being in some portions 2 cm. (⅘ inch) thick. There being considerable pus between the periosteum and bone, I made a counter-opening at the outer condyle, very near the joint cavity. The bone seemed so thoroughly disorganized and diseased that disarticulation at the hip appeared to be indicated, and would have been performed had the necessary consent been gained. A small incision was also made near the outer condyle of the left femur, where the same condition of affairs existed, only in milder degree. At this point I made a deep and large ignipuncture with the thermo-cautery.

Patient made an unexpectedly good recovery; pain vanished completely from the ignipunctured limb. In less than two months all discharge had ceased, and she was up in an invalid rolling chair and regaining considerable motion at the hips; the knees, however, were quite stiff. The femora were reduced to nearly their normal proportions. In this case an operation for the relief of anchylosis was made subsequently, and since leaving Chicago I have learned that she continued to improve so as to get around comfortably with a cane.

In this case I only ignipunctured one side; I should have done as much for the other, but at the time of operating the prospect of life of that limb, and even of the patient, seemed too hopeless to make it worth while. This case taught me an excellent lesson as to the viability of diseased bone.

CASE V.—J. H., of Pennsylvania, æt. forty. In 1875 patient had an ischio-rectal abscess which broke spontaneously, and established a fistula in ano that still persists. I mention this here to show the concurrence of two tuberculous lesions, apparently local and independent. In November, 1879, he "turned the left ankle under him," doing such damage that his medical attendant told him he had broken some bone; which one he does not know. Not long after this the lower end of the tibia began to enlarge; a sinus opened, discharged a year, and then closed. By May, 1880, he was able to move about with a cane, but in May, 1883, it became worse, so that he could scarcely bear his weight on it for more than an hour.

December 1, 1883, he was admitted under my care in the Buffalo General Hospital. *Status præsens:* A large, well-nourished frame; general condition fair. Fistula in ano present. Find also the lower end of the left tibia much enlarged and club-shaped; notable atrophy of soft parts above and below; motion at ankle barely possible; extreme tenderness about internal malleolus, and on pressing the foot against the tibia. Complains of pain, worse at night. Diagnosticated ostitis tuberculosa.

December 12th, in my clinic, I anæsthetized him, and making an incision down to the periosteum at the internal malleolus, I first explored with a bone drill to see if I might find any pus. Finding none, I ignipunctured in different directions with the thermo-cautery point, going in fully 2 cm. ($\frac{4}{5}$ inch). Naphthalin dressing. At the same time I operated on the anal fistula, and scraped out a quantity of detritus such as I have already spoken of as tuberculous.

Within ten days the bony enlargement was perceptibly smaller, and most of the tenderness disappeared. Pain was relieved at once. The joint also could be moved almost to its full extent. On January 23, 1884, there being still a point of considerable tenderness, I repeated the ignipuncture. By March 1st the bone had resumed its natural size and shape, as compared with the other side, and he could bear nearly his whole weight on the foot. He made an excellent recovery.

CASE VI.—Ethel S., æt. five. Deaf-mute. Tuberculous diathesis and family history. Patient brought to me from Canada. When sixteen months old she spontaneously developed a disease of the left knee, and for some months would not use it. After a while it straightened out from its previously flexed position, and she began to use it again. December 15, 1883. *Status præsens:* Typical tumor albus, with contracture to a right angle; subluxation backwards of head of tibia; clubbing of lower end of femur; atrophy of soft parts, and moderately firm anchylosis. In my clinic on that date I made tenotomy of hamstring muscles and lateral ligaments, and then applied traction with hot fomentations about the knee. Within a week the limb was very nearly straight. At this time the circumference of the knee-joint was four centimetres greater than that of the other knee, in spite of great atrophy of soft parts.

January 9, 1884, there being a point of great tenderness over the internal condyle, as nearly as could be made out from the actions of the child, I ignipunctured through the capsule. The child went home February 16th with a joint movable through an arc of 100 degrees, only *1 cm.* ($\frac{4}{10}$ inch) of difference in circumference as between the two knees; no signs of special tenderness could be elicited. A posterior straight splint, with daily passive motion, and a high shoe sole on the other foot with the use of crutches, were advised. August 1, the limb is in a most satisfactory condition.

I will not now add to the number of these cases, for I think they serve as well as would twice their number to demonstrate what ignipuncture may be expected to effect. I have not yet seen fit to resort to it in incipient spinal caries, in which cases I, at the same time, think it would be of marked benefit. The deep position of the bones affected, and the somewhat extensive operation necessary to expose them for this treatment, have so far deterred me from attempting it; but the more I extend my experience with it the more I feel that the experiment should be made. Nor am I aware that anyone else has seen fit thus to use it. But for all accessible bone disease of the kind I have described I cannot but feel that we have here a procedure which is both curative of the present disease and prophylactic against extension; and that its extension may be the cause of frightful local ravages, not to say of acute general miliary tuberculosis, a study both of cases and of recent literature will fully convince.

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URTICARIA AS A CAUSE OF MISCARRIAGE.

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OF all the reflex causes of premature birth, or miscarriage, I have seen none attributed to urticaria. Excessive irritation of the nervous arcs—mammary, rectal, or uterine—or of the periphery, or of any of the internal organs, especially excessive gastric or intestinal irritation, as from dyspepsia, diarrhœa, dysentery, or intestinal worms, are spoken of as probable causes of abortion or premature birth; but general febrile diseases, smallpox, and other exanthemata, as scarlatina, and relapsing fever even, seem to have no particular or immediate effect in that direction, even should the fœtus or child in utero be attacked simultaneously with, or consecutively to, the mother, which is known to be the case—the child being born with pustules of variola on some portions of the body, or shows signs of other eruptive fevers, as scarlatina. If miscarriage or abortion should occur from such causes, as they do sometimes, a fatal issue is apt to be the result. Dr. Charles A. Leale reported a very interesting case, in a paper read before the New York County Medical Association, April 21, 1884 (THE MEDICAL NEWS, May 31, 1884), of scarlet fever in a child at birth, the mother being at the end of the ninth month of pregnancy, labor being induced when she was in the early part of the eruptive stage of the fever. The child was delivered with the forceps, and was also in the eruptive period, simultaneously with the mother. This only shows, however, that scarlet fever does occur at such periods, and may occur at any other, but not that it produced premature delivery, though it possibly hurried delivery in this case.

The ordinary accompaniments of pregnancy have usually no deleterious effect on its progress. Leishman says: "In so far as the familiar affections which so frequently attend early pregnancy are concerned—such as sickness, faintness, salivation, and the like—and which, when extreme, are considered among the diseases of pregnancy, it has always been observed that these are very rarely the cause of abortion. The most common of all—sickness—is, even in the worst cases, little liable to be followed by premature expulsion. 'It is,' as Dewees says, 'a remark as familiar as it is well grounded, that *very sick women rarely miscarry.*' " These affections continue frequently up to the end, and only cease with a natural and easy delivery, or the child may have even gone through an eruptive disease, the mother being a mere conductor of the contagious principle, without miscarriage. "As an illustration of which, in the case of smallpox," Leishman says, "Mauriceau tells us that shortly before he was born, his mother had the misfortune to lose the eldest of her three sons by this disease, and that, in spite of her condition, as women will do, she tended him with constant and tender care. Mauriceau was born the day after his brother's death, and, although his mother neither then nor subsequently presented the slightest symptoms of the disease, he had on his body at his birth five or six undoubted variolous pustules."

The local causes of abortion and premature birth are various. Hart and Barbour (*Manual of Gynecology*) say: "The cause of abortion may be (1) in the fœtus, or (2) in the mother. On the part of the *fœtus,* disease of the chorion and hemorrhage into the fœtal part of the placenta produce death of the fœtus and consequent abortion; these conditions are most frequently due to syphilis. On the part of the *mother,* endometritis and metritis are the most important causes. General debility and fevers (typhus and scarlet) also produce abortion." And also "it is evident that a severe blow or fall might lead to hemorrhage and separation of the membranes," and consequently miscarriage.

Leishman says: "Many of the causes which have been enumerated as inducing abortion may also operate similarly at this more advanced period of pregnancy, but there are undoubtedly other special causes which may also be mentioned. The most important of these latter is over-distention of the womb, from whatever cause this may arise. Plural pregnancy, dropsy of the amnion, and hydrorrhœa, are all causes of this nature; and the immediate result of their operation is that the uterus attains, at a period much earlier than is usual or normal, that degree of distention which is characteristic of completed gestation."

A little review of the definition, etiology, and pathology of urticaria may give some insight into the reason why it might play so important a part, in causing the premature expulsion of the contents of the womb, an action which can only be looked upon, probably, as entirely reflex in its nature.

Plumbe and Hillan place urticaria among the exanthemata. McCall Anderson places it among the inflammations, with erythema, eczema dermatitis, and erysipelas. Dr. George Henry Fox also classifies it under the head of the inflammatory affections with eczema dermatitis, etc., and so do most all dermatologists.

Plumbe says: "Urticaria has constitutional causes, and is allied to prurigo, and consists chiefly of that species of determination to the skin, produced by sympathy with the stomach, or by local irritation." Wilson Fox says "it complicates acute catarrh of the stomach, and is often caused by shell-fish, mushrooms, cucumbers, etc., or by substances against which the patient has a special idiosyncrasy."

Niemeyer says: Urticaria has been classified according to the different exciting agents which produce it: "1, from external irritation; 2, from ingesta; 3, urticaria febrilis; 4, chronic urticaria; 5, there is a form of urticaria mentioned by Hebra which is evidently dependent upon uterine irritation, and which appears in some women during pregnancy, in others during menstruation, while in others again it accompanies diseases of the womb, or follows the introduction of pessaries."

The pathological conditions entering into this form of disease are not easily settled. Like many other affections, it has not been decided whether it is a purely local affair as a dermatitis *per se,* or a general febrile or blood disease, as erysipelas, etc., the external appearances being only symptoms of a deeper trouble, or a simple neurosis. Authorities differ as to all of these views. The generally accepted opinion is that it is a local irritation or dermoid inflammation, according to Niemeyer, in which a serous infiltration of the papilla of the skin, and probably, too, a swelling and infiltration of the cells of the rete Malpighii cause the formation of circumscribed flattened elevations, whose width is greater than their height, and which are called wheals, dependent partly upon external causes, but principally upon altered fluids or retained excreta, absorbed into the circulation, from unwholesome ingesta; such fluids or poisons being noxious to certain cell elements, cause the changes which take place in the skin, and the great discomfort so characteristic of the disease.

In this view of the pathology of urticaria, it is a fair question to ask whether the unwholesome ingesta were the prime factor, and the dermatitis the secondary effect, and, whether the deleterious matter operated through the general circulation or through the nerve-centres.

Handfield Jones says: "Urticaria, by its fugitive character, by its manifold and various causes, by its nocturnal invasion, by the dysæsthesia attending it, and by the nature of its phenomena, fully asserts its title to be regarded as a neurosis. . . . It is, I think, probable that the dysæsthesia and the cutaneous contraction are co-results of the same nerve disorder, and that the latter is not merely the reflex of the former. The spasm is certainly not dependent upon hyperæmia, as in urticaria evanida it occurs without any. The diffuse inflammatory redness of the skin, which is marked in some instances, and attended even with swelling, must be considered as an indication of vaso-motor nerve paresis, and we thus get in this curious malady three different pathological changes, resulting from the operation of the same cause, viz., spasm of contractile tissue in certain parts, paralysis in others, and a state of hyper- and dysæsthesia of sensory nerves." "Like most neuroses, urticaria may be produced by remote irritation, which is in many cases seated in the intestines, but may be elsewhere, as in the female sexual organs." Charcot mentions particularly cutaneous affections accompanying nerve disorders, and says: "In the case of a woman at present under treatment at La Salpêtrière (for locomotor ataxia), enormous patches of urticaria are produced at every paroxysm on the parts where the keenest pains are felt. (*Lectures on Nervous Diseases;* Philadelphia, 1879.)

References might be multiplied to show that this is the correct aspect of the subject, and why it might be a prime element in the causation of miscarriage. Viewed as a neurosis, very much of the effects of urticaria might be accounted for, especially when we regard the intense systemic irritation it produces, and the manifold secondary complications it is liable to engender. It is in this point of view that I have regarded the subject, and in which I present it. The following case I report as bearing somewhat upon the matter, and hope it will not be without interest:

Mrs. ———, aged twenty-six, native of Virginia, strong, healthy woman, mother of one child two and a half years old, pregnant for the third time, in the eighth month of utero-gestation; miscarried October, 1881, at third month, supposed from abdominal pressure, from carrying her child on one arm and a heavily filled market basket on the other. Had much hemorrhage, and was very much reduced. Was attacked the morning of 22d July, 1882, with severe lancinating pains about the umbilicus, attended by much nausea, and incessant vomiting of large quantities of clear greenish fluid, which came up without effort, as if by mere contraction of the stomach. Her body, from head to foot, was thickly covered over with the eruption of urticaria, particularly over the abdomen and face, the face being intensely red and puffed, and with it distracting burning and itching. Her pulse and temperature were considerably increased, bowels slightly constipated, and tongue lightly furred. She did not remember to have eaten anything to disagree with her; had rather been abstemious; but, remembering her miscarriage only nine months before, had been greatly concerned for some time about her condition, much more so than usual, for fear something should happen to her for evil, either before or during her confinement. This thought had kept her in a nervous state, and this sickness coming on her suddenly, almost without premonition, still further alarmed her. I prescribed rest and an alkaline and opiate mixture, and afterwards a saline aperient when the pains had subsided. The pain and vomiting ceased after a few doses of the medicine. The aperient gave her two light operations in the morning.

23d.—11 A. M. she was free from pain and sickness of stomach, and the urticaria had partially faded, but was yet visible over most of the body, and still caused much distress. She felt better, and desired to get up. She said she had not felt the fœtus move since the 22d, the day she was taken sick.

24th.—At 4 A. M. was called in haste, and on my arrival found she had miscarried of a well-formed, full-sized, stillborn female child, of the eighth month. The placenta was detached, and was easily removed. The urticaria at once began to disappear, and in three or four days was entirely gone, and she made a good recovery.

July 18, 1883.—She was delivered of a full-sized male child at term, with no return of the urticaria.

1211 F STREET, N. W.

REPORT OF A REMARKABLE CASE OF COUGH.*

BY ALEXANDER W. MACCOY, M.D.,
MEMBER OF THE PHILADELPHIA LARYNGOLOGICAL SOCIETY.

THE following is a report of a case under my care for some time, sent to me by a prominent practitioner of this city, who desired me to take charge of the case, and determine if anything could be done for her relief.

Mrs. S., æt. 40, resident of Philadelphia, married twice, the mother of one healthy child, was first seen in December, 1882. At this time she was suffering from an almost continuous, exhausting, irritative cough, accompanied by violent fits of gagging which had defied all treatment, and which had continued for several years. The patient was very thin of flesh, and her face much careworn. She stated that her attacks of cough often lasted for hours, and were frequently accompanied by the fits of gagging, which came on after the cough had continued for a short time. Sometimes after ascending the stairs, gagging would follow and soon render her helpless. Her debility was so marked after one of these paroxysms that she frequently had to go to bed, and was compelled to remain there for some hours. Between the attacks of coughing and gagging she was rendered most miserable, and was completely debarred from social engagements.

Examination showed no pulmonary disease. Inspection of fauces revealed marked cicatrices involving most of the posterior pharyngeal wall, extending well down the throat. Laryngoscopic examination at once made manifest the cause of her attacks. On a line with the superior margin of the arytenoidal portion of the larynx, on the posterior wall of the pharynx, was a horizontal cicatricial band extending well across the pharynx about one-eighth of an inch in diameter, the ends of which spread out in a fan-shaped manner, the fibres being lost in the tissues on each side. This band was so placed that the free edge of the epiglottis was touched by it while rising and falling, and readily explained the cause of the cough. The gagging was brought about by interference with the free action of the vertical and circular muscular fibres of the pharynx, as well as by impingement of the free edge of the epiglottis.

The *specific* action (undoubtedly the cause of the destructive change) had long since ceased. While there was no direct history of syphilis, there was a history of a severe attack of ulcerative disease many years before, which she states her physician called diphtheria. No lesions of syphilis excepting those found in the throat were visible.

The treatment consisted in dividing the cicatricial band with the galvano-cautery knife *vertically*, and dilatation. The first operation was not attended by perfect success, owing to the incision being too near the median line. A few weeks after the first operation a second incision was made on the left side much longer and deeper than the first one. This effort was eminently successful. For six months there was absolutely no return of cough and gagging. Quite recently there has been some return of her attacks from neglect to keep up the dilatation. Another operation of multiple incisions was made a few months ago, which again completely relieved her. With occasional dilatation it is probable that the result will be perfect, but without it contraction will certainly occur in time (as is so well known), and the result will not be so satisfactory as it now is.

The adaptability of the galvano-cautery knife for the relief of this condition has so impressed me that I am unable to see how the operation could have been performed so safely and so well by any other method.

1417 WALNUT STREET.

MEDICAL PROGRESS.

PASTEUR'S EXPERIMENTS ON HYDROPHOBIA.—M. PASTEUR, in his address before the International Medical Congress, related the latest results of his experiments concerning (1) trephining; (2) injection into the blood; and (3) the bite of the dog. When he had discovered his method of inoculating dogs, and so made many dogs insusceptible of hydrophobia, he requested the French Government to appoint a competent committee to judge of his results. The request was granted by the Minister of Education, M. Fallières, who appointed MM. Béclard, Paul Bert, Bouley, Tisserane, Villemin, and Vulpian, as members of the Committee. This Committee has just sent its report to the Minister, of which the following are the most important points. M. Pasteur gave twenty-three inoculated dogs to the Committee. These were compared with nineteen non-inoculated dogs selected by the Committee. The Commission first observed that, in guinea-pigs, the onset of hydrophobia occurred five days after inoculation, and it was also ascertained that, in rabbits and dogs, the period of incubation was extended to twelve or fifteen days. The experiments, by the request of the Commission, commenced by inoculations made within the cranium. The matter for inoculation was taken from the pons Varolii of a dog who died in the infirmary at Alfort, from ordinary hydrophobia. A circular piece of bone, five or six millimetres in diameter, was removed with the trepan, and the inoculation was made with a syringe in which the extremity of the needles was bent almost to a right angle, so that the matter was inoculated immediately beneath the dura mater, and not into the cerebral substance. In this manner, two dogs who had been submitted to prophylactic inoculation, and two who had not, as well as two unprotected rabbits, were inoculated; subsequently, two protected and two unprotected dogs were allowed to be bitten by a dog suffering from hydrophobia; and after the death of this dog, six other dogs, three protected and three unprotected, were inoculated. On subsequent days, the experiments were repeated and varied. Altogether, forty-two dogs were used, of which twenty-three were protected by prophylactic inoculation, and nineteen were unprotected. Of the nineteen not protected, fourteen died of hydrophobia; that is to say, of animals bitten, three out of six died; of eight animals in which intravenous inoculation was performed, six died, and all five inoculated through an aperture made in the cranium with a trepan; of the twenty-three dogs protected by prophylactic inoculation, not one died of hydrophobia, one died with diarrhœa; but inoculation showed that there was no reason to suppose that the animal had hydrophobia. The work of the Commission is for the present arrested, but will be resumed; attention will be particularly directed to the methods of vaccination, and to the question whether the inoculation of an animal already bitten can prevent the subsequent development of the disease. M. Bouley, writing in the name of the Commission, testified that, so far as the investigation had gone, it had been found that M. Pasteur had advanced no statement which was not rigorously exact. He had established that, by inoculation with an attenuated virus, dogs could be rendered refractory to hydrophobia. It yet remained to be ascertained for how long this immunity persisted. The Commission now intends to vaccinate twenty dogs of their own accord, so as to ascertain results independently of M. Pasteur. M. Pasteur finished his address by stating that animals are proportionately less infected by bites from dogs than by inoculation. His experiments had only produced results with regard to animals, but he considered it most likely that, if the dog could thus be made insusceptible of hydrophobia, the source of this dreadful disease in man would be extirpated, and the question as to prophylaxis, both for dog and man, would be solved.—*British Medical Journal*, August 16, 1884.

INTESTINAL RESECTION AND SUTURE.—FIELD reports (*Arch. f. klin. Chir.*, Bd. xxx. S. 222) the case of a man, æt. 33 years, who came to the Clinic at Bonn with a strangulated hernia four days old. The hernia was gangrenous, and Field resected four inches on the concave side of the intestine, and four and a half inches on the convex side; and put in sixteen fine, and twelve deep sutures. A fine needle, and the finest sort of silk were used. Although it was necessary to reopen the wound, and though the patient had an attack of pneumonia during convalescence, he was well in six weeks after the operation.—*Centralbl. f. d. med. Wissensch.*, July 12, 1884.

REMOVAL OF GALL-STONE FROM THE ILEUM.—Dr. J. M. Browne, U. S. N., reports a case which occurred in the practice of DR. WM. E. TAYLOR, U. S. N. (retired). The patient was a woman, about forty-five (?) years of age, who had abdominal pain and nausea, no action from the bowels for two days, and enemata and laxatives had failed. Nothing wrong was found at any of the usual hernial outlets; the rectum was empty, and the uterus normal and in good position. There was but little tenderness, and no apparent swelling; excessive fat made an abdominal diagnosis difficult. Dr. Taylor was most impressed as to the serious nature of the case by the "shock" and increased frequency of the pulse, which he has always seen in gut-injuries, whether from wounds or strangulation. The vomiting, which had been bilious, became stercoraceous. Under the belief that there was an acute obstruction, an operation was performed. A band surrounding the ileum was encountered and divided, and, following the distended gut down, a hard, pear-shaped body was found firmly impacted in the ileum, at its lower portion, say, some twelve or eighteen inches from its lower end. This body was situated with its small end pointing downwards, and fitted as tight as a cork, not even allowing wind to pass it. It could not be moved, nor could the fingers make any impression on it, by any *safe* pressure. A needle was introduced through the wall of the gut, but it was too hard to be broken. The intestine was opened by an incision one inch in length, and the gall-stone removed; the wound in the gut was sewed up and the abdominal wound carefully closed.

The patient died on the fifth day. At the autopsy the gall-bladder was found thickened and closely adherent to the duodenum, with an opening nearly an inch in diameter leading through into the bowel, the peritoneal cavity being shut off by the adhesions. The intestinal wound was so far healed as to prevent the escape of contents. There was but little more peritonitis than at the time of the operation. The wound in the abdomen had not taken on much repair. The stone was pear-shaped, nearly two inches long, and one inch in diameter. —*Proc. Naval Med. Society*, vol. ii. No. 1.

ALTERATIONS OF THE KIDNEYS FROM UTERINE FIBROIDS.—PROF. S. POZZI, at the close of an article on this subject, draws the following conclusions:

1. Compression of the bladder and ureters is a frequent complication of fibroid tumors of the uterus, even when they are of moderate size; and they may rapidly cause grave kidney lesions, such as hydronephrosis, cysts, sclerosis, and fatty degeneration.
2. When the compression acts directly on the bladder, it is easily recognized. When, however, the ureters are compressed, the trouble may not be recognized until kidney lesions have been produced, and variations in the urine from the normal (as albuminuria) detected.
3. Compression of the bladder or ureters should be of great weight in determining an operation (hysterectomy), and are alone sufficient to cause a hasty intervention on the part of the surgeon.
4. In case of hydronephrosis, the indication for operating is particularly pressing, in view of the danger threatening the kidney. The treatment of these complex cases may be rendered less grave by first performing hysterectomy, and, after the patient rallies from this, then attacking the cyst:
5. The prognosis of hysterectomy is considerably graver when an examination of the urine shows renal alterations; and should they be very advanced, as in confirmed Bright's disease, the operation is contraindicated; a moderate amount of albuminuria, however, is not a contraindication.—*Annales de Gynécol.*, July, 1884.

SWOLLEN AXIS-CYLINDERS IN THE CORD.—FR. SCHUTZE reports (*Neurologisches Centralbl.*, No. 9, 1884) the results of the examinations of the spinal cords from six cases of parenchymatous, and three of interstitial nephritis. In three cases he found the axis-cylinders swollen, especially in the dorsal portion and in the lower portion of the cervical enlargement, and for the most part in the periphery of the lateral columns (Seitenstränge). There was no meningitis in the doubtful cases. Œdema and dropsy seemed to play no part in the origin of the swelling, since it was found to an extraordinary degree in a case of leukæmia in which there was no œdema at all. It appears to be due to altered nutrition of the axis-cylinder, caused by general alterations in the quality of the blood.—*Centralbl. für klin. Med.*, July 26, 1884.

THE CONDITION OF THE AXIS-CYLINDERS IN MULTIPLE SCLEROSIS.—In a case of multiple sclerosis of the spinal cord (extensive, diffuse, irregular chronic myelitis) SCHULTZE found the pyramidal tracts of the cervical portion, together with the greater part of the anterior and lateral columns, altered, and also the whole posterior columnar region in the lower cervical portion. Still, there was not the slightest secondary degeneration of the lateral columns of the dorsal portion, corresponding to the posterior columns of the cervical portion of the cord. As is known, the absence of secondary ascending and descending degeneration in multiple sclerosis is the rule, and it is a question how this apparently anomalous condition is to be explained. Charcot has already shown that the axis-cylinders exist in a certain quantity in the central regions of the sclerosed masses; and Schultze proved this very satisfactorily by Freud's gold-chloride method. They were completely without nerve-pulp, and partly swollen. From this it appears that the absence of secondary degeneration requires an extensive alteration of the axis-cylinder, and is not due to complete loss of the pulp-sheath to a circumscribed extension upwards.—*Centralbl. f. klin. Chir.*, July 26, 1884.

THE ALEXANDER-ADAMS' OPERATION FOR DISPLACEMENT OF THE UTERUS.—Mr. Robert Miller reports two cases operated on at the Town's Hospital, Glasgow. The operation consists in making a simple skin incision over the external inguinal ring, gathering up the ends of the round ligaments and drawing them sufficiently out to restore the womb to its normal position. Finally, the ends of the ligaments are stitched to the edges of the wounds.

Both the cases operated upon were successful. DR. ADAMS, in commenting upon them, says that these cases show the immediate relief that may be obtained from this operation in cases of *prolapse*. There is, however, some risk of the operation becoming discredited from two causes. Thus it requires considerable experience to recognize, catch up, and manipulate properly the ends of the ligaments. The least rough handling may tear them, and too much poking within the wound by unskilful exploration is apt to produce a condition favorable to hernia, and favorable to the induction of suppurative action. Then in cases of old retroversions or flexions, in which the posterior portion of the fundus uteri has become more or less hypertrophied, the operation will only yield partial *immediate* relief, and it is through time alone that the altered circulation will affect the dense uterine tissue, and alter for the better the nutrition of the organ. That it does do so is shown in one case in which menstruation has been reëstablished after a long lapse of years.

It is better to cut off about one inch of the ligament, as the extremity usually sloughs. The manipulation required even in experienced hands is an obstacle to the chances of getting the wound to heal by first intention; but with more frequent opportunity I am becoming sure that this may be obtained in the majority of cases. The catgut used should be prepared to with-stand the action of the tissues for ten days; and in addition to stitching the ligaments to the pillars of the ring, the sutures bringing the external wounds together should pass through the ligamentous tissue that projects from the ring.—*Glasgow Medical Journal*, August, 1884.

Neutral Sulphate of Atropine in Acute Otitis of Children.—Since Dr. Gentilhomme made known about two years ago the good results obtained by the administration of atropine for catarrhal inflammations of the nose, several confirmatory observations have been published. The action of atropine is undoubtedly favorable in the greater number of cases; in some cases it is so energetic, even in doses of gr. $\frac{1}{180}$, that considerable dryness of the pharynx is caused, and deglutition rendered so difficult that the patient cannot swallow solids. These effects are particularly intense in patients who have a commencing pharyngitis sicca.

Dr. C. Miot has prescribed the solution of atropine for a certain number of children who were often affected with intense rhinitis, and had, at the same time, an acute otitis on one side or the other. The atropine aborted the rhinitis and prevented the otitis. Miot has notes of over thirty cases in which this treatment was successful.—*Rev. de Laryngol, Otol., et de Rhinol.*, Aug. 1884.

Cystoid Degeneration of the Arachnoid.—**Prof. Langerhans**, in his *Inaugural Dissertation*, Berlin, 1884, describes four cases of cystic degeneration of the arachnoid, with marked anomalies of the brain, which were observed during the first half of the semester of 1883–84 in the Pathological Institute in Berlin. In the first case there were multiple defects of the cerebral hemispheres; in the second, there was a cyst as large as a hen's egg in the cerebellum; in the third, there was a cyst at the base of the left parietal lobule as large as a pigeon's egg; and in the fourth case, there was a cyst at the apex of the left parietal lobule as large as a pigeon's egg. These cases are interesting from the fact that none of them presented any clinical symptoms of brain tumors during life.—*Centralbl. f. d. med. Wissensch.*, July 12, 1884.

Splenectomy.—**Dr. Koeberlé** recently related, to the Société Médicale de Strasbourg, his second case of splenotomy, performed on a woman, forty-six years old, for a hypertrophied spleen, the result of intermittent fever. Both this and his first case were examples of the largest spleens that had ever been removed, the organ in both cases resting on the pubis, while there was also great enlargement of the liver. The spleen in the present case measured 40 cm. (16 inches) in length, being only 5 cm. (2 inches) less than in the other case, in which the organ, when emptied of its blood, weighed over 17 pounds. The affection had run a rapid course of less than a year and a half, and at last there was effusion into the pleura, pericardium and peritoneum, the patient being much emaciated and cachectic, passing but a small quantity of urine and exhibiting a temperature of from 102° to 104° F. As in the former case, there was great adhesion to the diaphragm. In that case fatal hemorrhage had taken place from the vessels of the adhesions, but in the present case this was prevented by three ligatures on the splenic vessels. As a consequence of the constriction caused by these, arterial hemorrhage took place from a large number of cutaneous vessels along the line of incision, where complete hemostasis had prevailed for more than an hour. A great deal of blood (which was very plastic and rich in coagulable fibrin) was in this way lost; but in spite of this the patient rallied well for a while after the operation, which lasted nearly three hours; but in about an hour after its completion she was seized with convulsions and died. This case is another example of the danger of removing large spleens; but the operation was only performed at the woman's insistance, after its danger had been completely explained to her.—*Med. Times and Gaz.*, August 2, 1884.

The Functions of the Phrenic Nerve.—**J. Schreiber** (*Pflüger's Archiv*, Bd. xxxi. S. 577) states that in narcotized and curarized dogs, the mechanical and electrical irritation of the central end of the phrenic nerve, in the region of the trunk and roots, is succeeded by a slight, but nevertheless noticeable, rise of blood-pressure. After section of the roots, from the fifth and sixth cervical nerves, irritation of the trunk caused no increase of blood-pressure. The upper root was shown to be powerless, whilst the trunk reacted.—*Centralbl. f. d. med. Wissensch.*, July 26, 1884.

The Pharmacology of Cantharidin.—**Dr. Evgeny A. Liakhnitzky** has recently made some extensive researches on this subject (*St. Petersburg Dissertation*, 1884). Frogs, dogs, and rabbits, into which he introduced cantharidin and cantharidate of soda, were used for his experiments. He sums up the results of his nearly two years' investigations as follows: 1. The physiological action of cantharidate of soda (natrium cantharidinicum) is identical with that of cantharidin. 2. Canthardin (and cantharidate of soda) produces an increase in frequency of the heart's action, in consequence of paralysis of the vagus. 3. It does not display any strongly manifested influence on the arterial tension, since the latter is lowered only under toxic doses, in the period before death, and then mainly in consequence of a growing weakness of the cardiac muscle. 4. It causes a retardation of respiration in cold-blooded animals from the very beginning, and in the warm-blooded after a preceding acceleration, the phenomenon being dependent upon the weakening of the respiratory centre. 5. It does not change the excitability of muscles or of the motor and sensory nerves. 6. In cold-blooded animals there is observed a loss of reflexes, which depends mainly upon the lesion of reflex centres in the spinal cord. 7. The main ways of elimination of cantharidin out of the system are the kidneys, the intestines, and the salivary glands. 8. On its being introduced into the blood, cantharidin is found almost in all organs of the body, but the greatest quantities are detected in the liver, kidneys, salivary glands, and gray matter of the brain. 9. The lesions of the bowels, which occur even on extravenous injections, present one of the most marked symptoms of poisoning by cantharidin. These lesions are caused by secretions of cantharidin by the intestinal mucous membrane. 10. Cantharidin produces slight oscillations of the temperature, in general tending to lowering the latter—*London Med. Record*, July, 1884.

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SATURDAY, AUGUST 30, 1884.

THE CHOLERA.

The outlook in France, Italy, and Switzerland is not so good as it was a week ago, and the late increase of cholera at Toulon would seem to indicate that the disease has lost none of its force in the quarter where it first made its appearance, over two months since. Its gradual spread throughout southern and eastern France, crossing the Alps and invading Italy and Switzerland on the one hand, and stretching westward to the Bay of Biscay on the other, would lead us to fear that the prophecy of Professor Koch may yet be verified, that all Europe will suffer with the scourge before it takes its final departure.

In our own country, we have so far been very fortunate, escaping both yellow fever and cholera, though more than once threatened by yellow fever ships, and at least once by a cholera-infected vessel.

The vaunted "sanitary precautions" suggested as a preventive of cholera, and inaugurated in many of the villages of France, have, it is stated, proved ineffectual in staying the progress of the disease. Whether this be true or not, we cannot afford to relax our own efforts in this direction, and we believe it is incumbent upon all our health authorities, municipal, state, and governmental, to continue the work of keeping our cities and our shipping clean.

We may escape this year, the probabilities now are that we will, but the past history of this disease warns us that so long as it is in Europe we are in danger, and that winter is no certain safeguard against its progress; therefore, it behooves us to keep up the fight against filth in every form, and leave no place for the disease to obtain a footing.

FAT EMBOLISM.

The subject of fat embolism can hardly be said to have received its proper recognition by the surgeon, whom, of all medical men, it chiefly concerns. For although the condition would seem to be one of the possible consequences of the lipæmia of diabetes mellitus, yet in this affection it is doubtful whether it adds much to the existing dangers of the disease at the stage when it may supervene, while it would seem to be due rather to the fusion of numerous small globules of oil, and sometimes, at least, to be mistaken for the post-mortem coagulation of a blood highly charged with fat. In no other medical affections are we aware of its having been noted.

In cases of injury opening the medullary canal of bones it is an ever-present danger, and, although our resources for its prevention are as yet extremely limited, it is hardly likely that they will be increased until we thoroughly recognize the probability and symptoms of its occurrence.

The condition, at least as the result of injury, appears to have been first discovered by Zenker in 1862, although two years earlier Müller noted that the choroid vessels of a patient were filled with liquid fat, which he supposed to have come from an atheromatous aorta. Since then it has been studied by others, and especially by Wagner in 1862, Bergmann in 1863, Schwick in 1864, Wagner and Uffelmann in 1865, Pellis, Busch, and Buttlewsi in 1866, Niederstadt in 1869, Fitz in 1876, Flournoy in 1878, Egli-Sinclair, Déjérine, Scriba, Wiener, and Fenger in 1879, Saundby and Barling in 1882, Pinner in 1883, Vogt and Bardeleben in 1884, and most recently by Dr. Roswell Park in the *New York Medical Journal*, who furnishes an excellent historical *résumé* of the subject, discussing also the etiology, pathology, and symptomatology.

The following illustrate the phenomena of the condition: In eight cases studied by Saundby and Barling, in which there was severe injury, which none of the victims survived more than five days, fat emboli were found in the lungs. In a ninth case, which suggested the study of the others, a compound comminuted fracture of one leg had been sustained, and a long interval had elapsed before surgical treatment was applied. On the second day, the pulse, temperature, and respiration having all been increased, the patient, without any other premonitory signs, became semi-comatose, the face flushed, and the breathing stertorous. Subsequently there was marked cyanosis. These symptoms continued until death supervened, three days after the injury. After death the microscope revealed numerous emboli in the small arterioles of the lungs, and a few in the capillaries; emboli were also found in the vessels of the glomeruli of the kidneys. In none of the other cases did any symptoms suggest the presence of the condition, but the degree of embolism, also in the lungs, was very much less.

In two cases of sudden death succeeding fracture of the humerus and neck of the femur, which occurred in men twenty-seven and twenty-eight years of age, under Bardeleben's care, fat embolism was found in the lungs. In both cases death occurred at the beginning of chloroform narcosis, and there seemed to be no disposition on the part of those reporting to ascribe death, in either case, to the anæsthetic. (*Centralbl. für die med. Wiss.*, March 8.) In another case, under Vogt (*Ibid.*), death occurred in a girl twelve years old, twenty-four hours after resection of the knee on account of fungous disease, and was ascribed to the same cause. The surgeon thought that the liquid fat which exuded abundantly from the cut surfaces of the bone was absorbed.

In our issue for May 19, 1883, we called attention to a case of fat embolism reported by **Pinner**, in which there was no fracture or other bone injury, but only profound laceration of the soft parts. The usual symptoms of death by fat embolism were present, and at the autopsy, emboli were found in pulmonary blood-vessels of large calibre as well as in the capillaries; also in a few glomeruli of the kidney. Pinner considered that the source of the fat here was the subcutaneous connective tissue, which was rich in it. He believes, too, that even in cases of fracture the soft tissues contribute to the fat producing the embolism, since experiments have shown that it is necessary that at least 210 grammes of fat must enter the circulation to cause death in an adult man, whose femur contains but 70 grammes. Hence some other source for fat must be found than the fractured bone, and none so likely as the soft parts simultaneously injured in fractures.

From the facts in his case, Vogt deduces that in cases of marked deformity after resection, close apposition of the cut surfaces of the bones should not be attempted, but free drainage should be secured. He further suggests that where there is marked fatty degeneration of bone, amputation and not resection should be performed. Dr. Park adds the use of every judicious means to increase the power of the heart to force the load of fat through the venous into the arterial system—digitalis, alcohol, strychnine, and, as he says, on purely theoretical grounds, inhalations of oxygen gas. He suggests that if the blood can thus be moved, the fatty matters will probably be emulsified or saponified by the alkalies in the blood. Such measures as these, together with promptness of treatment in all injuries of the kind referred to, seem to include at present all our resources in treatment.

DOES MALE COPULATION WITHOUT EMISSION INJURE FEMALE HEALTH?

It has been commonly believed that if the act of sexual intercourse is incomplete, by not ending in the discharge of seminal fluid within the sexual organs of the female, uterine disease is liable to result. Some writers have even gone so far as to assert that malignant disease of the neck of the womb could thus be caused. The sin of Onan was again denounced; conjugal onanism was assailed with a new weapon, and the thunderbolts of physiological vengeance were launched against the unhappy women who permitted sexual intercourse without having the womb "refreshed and soothed" by half a teaspoonful or so of one of the cheapest of human secretions. Onanism is abominable, unnatural, and there is enough ground for its absolute condemnation without involving the help of an improbable hypothesis or downright error.

Ten years ago Bertillon, writing upon *Hygiène Matrimoniale,* declared that the assertion as to the beneficial influence of the spermatic fluid upon the uterus had no scientific ground, and justly criticised the hypothesis. Nevertheless, the assertion would not die; it was vitalized by the faith and proclamation of too many doctors, and has still kept rising to the surface of periodical medical literature at occasional intervals. But now, as we think, **Dr. Van de Warker** has given it the *coup de grâce.* This able investigator and accomplished gynecologist has published in the *American Journal of Obstetrics* for August, an important paper entitled "A Gynecological Study of the Oneida Community," and the influence of non-ejaculation upon the health of women is one of the topics considered. The rule of non-emission was observed in sexual intercourse in the Oneida Community, and in such continence, more unnatural than conjugal onanism, no discharge of semen takes place either before or after the withdrawal of the penis. Now it plainly follows that if the influence of the seminal fluid upon the cervix is so necessary for the healthy state of the womb, those women of the Community whose wombs had been for years repeatedly subjected to the venereal orgasm—in some cases intercourse took place oftener than seven times a week, a more than brutal licentiousness—and had not had a drop of seminal fluid in all this time to refresh and protect them from disease, those women ought to have shown a great prevalence of uterine disease.

Seven years ago Dr. Van de Warker was asked to examine the adult female members of the Community with reference to the possible injurious effects of the sexual practices observed. In answer to this request he began such examination, but after one-fourth of the members had been subjected to it, it was stopped by order of the head of the organization. Nevertheless, enough was learned by the examinations that were made to justify Dr. Van de Warker in stating that he could discover "nothing but negative evidence as to the effect of male continence upon the health of the Community."

THE PASSAGE OF SOLID PARTICLES FROM THE MATERNAL TO THE FŒTAL BLOOD.

WHILE the passage of substances in the form of gas or in solution from the maternal to the fœtal blood has often been proved, it has generally been denied that solid substances may be similarly conveyed. Budin writing in 1877, in the *Dictionnaire Encyclopédique des Sciences Médicales*, refers to the single observation of Reitz, in which he found that cinnabar had passed from the blood of the mother to that of the fœtus, and regards the proof as not conclusive. He further adduces the negative evidence which Hoffman and Langerhans, Jassinsky, and Fehling have, after many experiments, given. He states that the passage of living formed elements, though easily explained by the theory of diapedesis, has never been ascertained; it is denied by Claude Bernard, and the experiments of Davaine, of Brauell, and of Bollinger prove equally that solid poisons, or those having form, are alike retained at the level of the two placentas, and cannot communicate their injurious action to the fœtus. While then the transmission of micrococci from the mother to the fœtus is regarded by Budin as disproved, he considers the fact of the latter being affected with variola, a disease which it is believed is dependent upon a microbe, as an inexplicable and contradictory fact.

Tarnier, in 1881, in his *Traité de l'Art des Accouchements*, is equally positive, stating that all experiments which have been made up to the present time prove that solid substances, even in a state of minute division, cannot pass through the membrane which separates the maternal from the fœtal blood. Charpentier, in 1883, also said that experiments tend to demonstrate that if liquid or gaseous substances pass, it is not true for solid substances, whatever the variety or however minute the division.

The recent investigations of DR. J. P. PYLE contradict these generally accepted views, showing that solid particles and bacteria may be transmitted from the maternal to the fœtal blood. The experiments were made in the Pathological Laboratory of the University of Pennsylvania, under the direction of Dr. Formad, and hence have presumptive evidence of reliability. In nineteen pregnant rabbits, a solution of ultramarine blue was injected into the bloodvessels, and of the sixty-one fœtuses obtained from these animals, forty-six showed the presence of blue granules in their tissues. Further, septic matter was introduced into the tissues of ten pregnant rabbits, and not only the mothers were found to have bacteria in their blood, but these bacteria were also discovered in the blood of the fœtuses.

Dr. Pyle further had the opportunity of examining the blood of a pregnant woman after death from septicæmia, and also that of her dead fœtus, which was removed by Cæsarean section, and in the blood of each vast numbers of micrococci were found. If the correctness of these experiments is verified, an important advance in our knowledge of the relations between the maternal and the fœtal blood has been made.

In one part of his paper Dr. Pyle states that the walls of ordinary bloodvessels, through which white blood-corpuscles migrate in any part of the body, are not thicker than the membrane interposed in the placenta between the maternal and the fœtal blood, and hence he regards it as plausible that the blood corpuscles might pass through that membrane. We cannot regard his experiments as proving such transference of blood globules from the mother to the fœtus —a suggestion which is in the highest degree improbable. Leucocytes are three or four times more numerous in the fœtal than in the maternal blood, and if these entered the former to be used in the formation of red disks—this being one of the probable theories of the origin of the latter—those disks ought not to present such wide variations in size, so different in this respect from the maternal blood; further, the hæmoglobin in the fœtal is decidedly greater than in the maternal blood. The blood of the fœtus and that of the mother have these among other marked differences, and it is in the highest degree improbable that the former receives from the latter corpuscles white or red, but it still will be held that the fœtus makes its own blood as to the anatomical elements, while the plasma only is furnished by the mother.

THE LAW REGULATING THE SALE OF POISONS.

A LAW of Pennsylvania says that no one shall

> "dispose of, by retail, any morphia, strychnia, arsenic, prussic acid, or corrosive sublimate, except upon the prescription of a physician, or on the personal application of some respectable inhabitant of full age of the town or place in which such sale shall be made, and in all cases of such sales, the word 'poison' shall be carefully and legibly marked or placed upon the label, package, bottle, or other vessel or thing in which such poison is contained."

A careful perusal of this clause shows that it is not as clear, or as comprehensive as it should be. It does not state whether it is intended to apply to sales *in bulk only* of the poisons mentioned, or also to mixtures and physicians' prescriptions containing them in such quantity that the dose directed is harmless, while a part or the whole quantity dispensed would be fatal to a person taking it.

To us it seems quite clear that all sales in bulk are within the intent of the law, and that every bottle of the officinal solution of morphia or a solution of corrosive sublimate even of the strength of a grain or two to the ounce must be labelled "poison." But it is not clear that it was intended to apply to the combinations and prescriptions into which the substances named enter in such quantities, that the dose ordered is harmless. Such an interpretation would render the law almost disastrous in its consequences; and would make it necessary to label nearly every second bottle of medicine dispensed on a physician's prescription with the terrifying word "poison." Not only this, but every bottle of paregoric, and of Brown mixture, every box of Wistar's cough lozenges, and a hundred or more articles which are daily sold over the counters of druggists must be so labelled. The effect of this upon the mind of the average patient can easily be imagined. It has been within the experience of almost every physician to have a patient say the medicine prescribed was not administered, because the prudent apothecary had, by way of caution, suggested care in its use.

It seems scarcely necessary to dwell further on the utter absurdity of such an interpretation of the law. Yet a coroner's jury in this city recently declared that an apothecary's clerk was criminally negligent because he failed to place such a label upon a box of pills of which each contained one-twentieth of a grain of sulphate of strychnia. The pills were prescribed by a physician, and the dose ordered was one, "at meals." This verdict was rendered because it happened that of several persons who, in a spirit of banter, had taken a number of these pills, a young girl, who took fourteen, died.

Stupid as this action may seem, it may not be without its good result. The interpretation of the coroner's jury may be literally correct, but it is not the interpretation of intelligence, nor is it called for by the purpose for which the law was enacted.

That the law is not as comprehensive as it should be is shown by the fact that the few poisons named in the Act are but a small number of those the sale of which should be carefully regulated by law. The list should be enlarged to include aconite, atropia and its salts, cantharides, digitalis, and many others.

It is to be hoped that the unfortunate fate of the heedless girl and the inconvenience and annoyance to which the apothecary's clerk was subjected, may be the impulse which will secure an amendment to a law which is so obviously inadequate.

MODIFIED COLOTOMY.

IN the *Beilage zum Centralblatt für Chirurgie*, No. 23, 1884, may be found a suggestion of MADELUNG, of Rostock, in regard to the treatment of carcinoma of the rectum which is beyond the reach of extirpation. Instead of performing an ordinary lumbar colotomy, he cuts through the entire calibre of the gut, attaches its central end to the external wound, and returns the peripheral end, after closure of its lumen, into the cavity of the belly. The advantages of the procedure, in addition to diminishing the disposition to prolapse of the gut, are that it removes the mechanical, septic, and chemical irritation to which the carcinoma is subjected by the retention and passage of feces in the ordinary operation, and that it prevents the annoyance and discomfort which arise from the accumulation of feces between the lesion and the external sphincter.

WAS COLOR-BLINDNESS THE CAUSE OF THE LOSS OF THE TALLAPOOSA?

THE collision and sinking of the U. S. Steamship Tallapoosa, and consequent loss of life, it seems quite probable, may be another example of the results which we are called upon from time to time to chronicle of the baneful indisposition of our legislators to grapple with the subject of color-blindness in its relation to railroad service and navigation; any legal enactment concerning which is extremely unpopular with railway and steamship employés, who constitute an influential portion of our voting population.

A sailor, who says he was in the pilot-house of the Tallapoosa at the time of the collision, stated to an Associated Press reporter, that during the momentous minutes immediately preceding the collision "the captain, navigator, and mate saw the lights of the schooner, but disputed whether it was the green or the red light." And thus vital moments were wasted, and finally when the Captain decided what course to take, it was too late to avoid a collision.

In the official inquiry which is about to be held, we hope the Navy Department will direct a special investigation to be made by a medical expert concerning the color-vision and acuity of sight of all the officers and men whose duty it was to have seen the lights of the colliding schooner, and thus definitely determine if defective color-vision, the existence of which had not been previously ascertained, was responsible for the sinking of the Tallapoosa.

WE are glad to call attention to the excellent objection urged by our esteemed contemporary, the *New York Medical Journal*, to the general use of the word albumen. The white of egg, known in its entirety as albumen, is not identical with the precipitate from albuminous urine, and such being the case, the words used to indicate the two substances should not be identical.

SPECIAL ARTICLE.

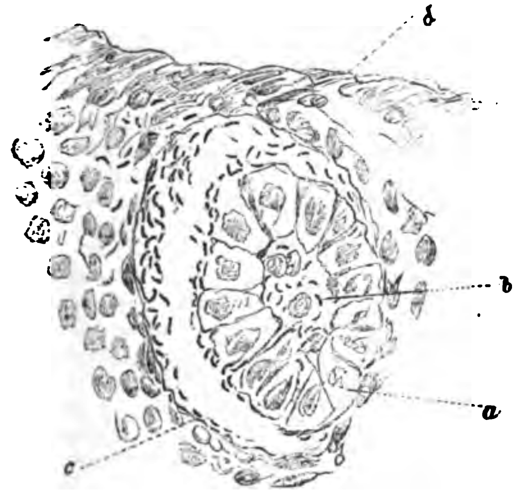
THE CHOLERA CONFERENCE AT BERLIN.

(Continued from page 223.)

THE Conference upon cholera at the Office of the Imperial Board of Health in Berlin, on the close of Dr. Koch's address, the conclusion of which we reproduce in abstract below, adjourned till July 29th, when it was occupied with several questions arising out of the discovery of Dr. Koch, upon which he made further observations. We hope later to give an outline of this meeting, which is reported verbatim in a supplementary issue of the *Berliner klinische Wochenschrift*, August 11th.

Before giving the conclusion of Dr. Koch's address we may draw attention to the subjoined illustrations of specimens which were exhibited, and referred to by him in that portion of his paper which appeared in our previous issue.

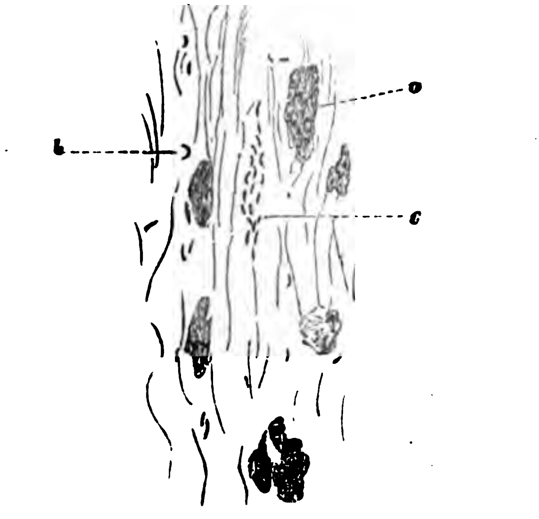
FIG. 1.



Surface of mucous membrane denuded of epithelium.

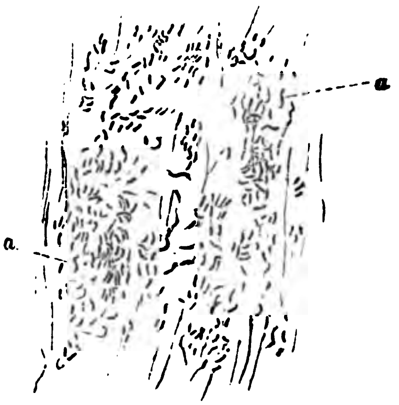
Section of the mucous membrane of the cholera-intestine. (*a*) Tubular gland cut obliquely. Within it (*b*) and between the epithelium and the basement membrane are (*c*) numerous comma-bacilli. × 600 diameters.

FIG. 2.



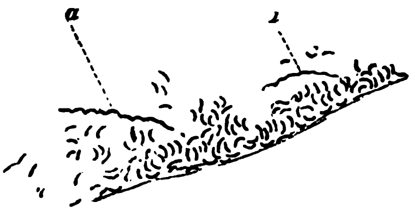
Cover-glass preparation of contents of cholera-intestine. (*a*) Nuclei of dead epithelium. (*b*) Semicircular comma-bacillus. (*c*) Characteristic grouping of comma-bacilli. × 600 diameters.

FIG. 3.



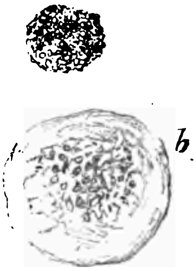
Cover-glass preparation. Cholera dejecta on moist huckaback (2 days old). Great increase of comma-bacilli, showing (*a*) the S forms. × 600 diameters.

FIG. 4.



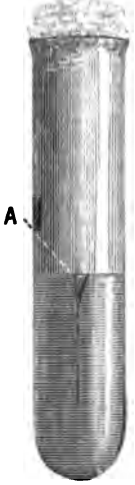
Cover-glass preparation. Pure cultures of comma-bacilli on the side of a drop of meat-broth. (*a*) Long screw-shaped (corkscrew) threads. × 600 diameters.

FIG. 5.



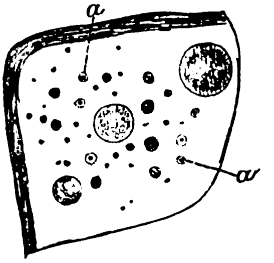
a. Youngest colonies. *b*. After liquefaction of gelatine. Colonies of comma-bacilli on gelatine plate. Enlarged 80 times.

FIG 6.



Funnel-shaped infiltration in gelatine in a reagent-glass.

FIG. 7.



Appearance of colonies on the gelatine plate. Natural size.

CONCLUSION OF DR. KOCH'S ADDRESS.

Being thus convinced as to the distinctive characters of the common bacillus, the next thing was to determine the relation in which it stands to the cholera process, and whether it ever occurred in non-choleraic cases. In the ten examinations made in Egypt, this point was only tested microscopically, no cultivations having then been made. In India the intestines were examined in forty-two cases, both microscopically and by cultivations, and in not one was the bacillus absent; in very acute cases it was found almost unmixed. Choleraic dejecta from thirty-two cases yielded similar results, but in only two out of many observations on vomited matter were bacilli found. It was probable that in these two cases the vomit contained fecal matter. Bacilli were also found in specimens from eight cases sent by Drs. Kartulis and Schiess-Bey from Alexandria, and in two cases examined at Toulon in conjunction with Drs. Strauss and Roux, and in the choleraic dejecta of two other cases. One of these Toulon cases was that of a sailor attacked with cholera when convalescing from malarial fever; he died four hours after the seizure, and the autopsy was made half an hour after death, it being always an object to make such an examination as soon as possible. In this, as in other acute cases, the intestines contained almost a pure growth of the comma-bacillus. The other Toulon case was similar, but in neither was the microbe found by Strauss in Egypt detected in the blood.

Thus the comma-bacillus has now been found in nearly one hundred cases of cholera, occurring in a constant relation to the cholera process, being most abundant in the lower end of the ileum, where the changes are most intense, and being most pure in the acute uncomplicated cases. On these grounds the comma-bacillus may be considered as specific to cholera. Many observations were made in other diseases, and in subjects who had recently passed through attacks of cholera, without finding these bacilli in the dejecta or in the bowels. These observations included cases of dysentery, typhoid fever, bilious typhoid, and infantile diarrhœa; the secretions of the mouth, which are so rich in bacterial life; the intestines in arsenical poisoning; but, although bacteria of all kinds were met with, the comma-bacillus was conspicuous by its absence. Similar negative results followed examination of the drain-water of Calcutta, and the impure tank-water in the villages on the banks of the Hooghly. Once only in the water flooding the region of the salt water lake east of Calcutta was a bacterium found at first sight resembling the cholera bacillus, but on further scrutiny it proved to be thicker, and not to have the power of liquefying gelatine. In his own experience and that of other bacterologists, a similar form to the comma-bacillus was unknown. Three different views as to its relation to the cholera process are tenable:

1. That the disease favors the growth of these bacilli by affording them a suitable soil. If so, it would mean that the bacillus in question is most widely diffused, since it has been found in such different regions as Egypt, India, and France; whereas the contrary is the case, for the bacilli do not occur in other diseases, nor in the healthy, nor apart from human beings in localities most favorable to bacterial life. They only appear with the cholera,

2. It might be said that cholera produces conditions leading to a change in form and properties of the numerous intestinal bacteria—a pure hypothesis; the only instance of such a conversion refers to a change of physiological and pathogenic action, and not of form. Anthrax bacilli under certain conditions lose their pathogenic power, but undergo no change in shape; and that is an instance of a loss of pathogenic properties, whilst there is no analogy to support the view of the harmless intestinal bacteria becoming the deadly cholera bacilli. The more bacterial morphology is studied, the more certain is it that bacteria are constant in their form; moreover, the comma-bacillus retains its special characters unchanged through many generations of culture.

3. Lastly, there is the view that the cholera process and the comma-bacilli are intimately related, and there is no other conceivable relation but that the bacilli precede the disease and excite it. "For my own part," said Dr. Koch, "the matter is proved that the comma-bacilli are the cause of cholera."

If this be so, experimental confirmation of the fact might be expected; and, were authors to be trusted, there should be no difficulty in this, since it has been stated that cholera occurs in cattle, dogs, fowls, elephants, cats, and other animals. But there is no evidence of such animals being spontaneously attacked with the disease during cholera prevalence: and direct experiments have either proved negative, or, if positive, have been inconclusive or been contradicted by others. The experiments of Thiersch on white mice, to which so much importance has been attached, have been repeated by Koch with recent and with decomposing choleraic material, the mice remaining unaffected. Experiments were also made upon monkeys, cats, fowls, dogs, and various other animals, but nothing like a cholera process was observed; and a similar result followed experiments with the comma-bacillus in all stages of its development. Animals were fed with large quantities of the comma-bacillus, with the result that the bacilli were found to be destroyed in the stomach, none appearing in the intestinal canal. It is not so with other bacteria—*e. g.*, a red micrococcus found in Calcutta. Dr. Barclay fed mice with this micrococcus and obtained cultures of it from the intestinal contents. The bacillus was injected directly into the small intestine and into the large bowel of monkeys, but without result; nor was any better success obtained by such measures employed after irritants had been introduced into the intestine. The only experiment which at first seemed to promise results was when pure cultures were injected into the blood of the rabbit or into the abdominal cavity of the mouse. The rabbits became very ill after the injection, but recovered; the mice died in from twenty-four to forty-eight hours, and the comma-bacillus was found in the blood. It would seem as if, unlike other experiments on infective disease, very large quantities of the virus had to be employed; but to assure himself of the capability of infecting animals with cholera, Koch made special inquiry as to whether animals in India ever had the disease. He learnt that in the densely populated province of Bengal, where many kinds of domestic animals are to be found under conditions favorable for infection, cholera was unknown among them. They appear to enjoy an immunity, and are incapable of being experimentally infected—a fact which is not fatal to the view that the comma-bacillus is pathogenic; for, apart from experimentation, no other explanation of its connection with cholera is possible than the causal one.

Leprosy is not communicable to animals, and yet the lepra bacillus must now be regarded as the cause of the disease. It is probably the same with typhoid fever, which is not communicable to animals. It is enough to ascertain the constant occurrence of a special kind of bacterium in a disease, and its absence in other diseases, its occurrence corresponding with the pathological lesions and the course of the disease. And there are some animal diseases not transmissible to man—*e. g.*, rinderpest and pleuro-pneumonia. Parasites have their special hosts; many kinds of animals have their own tapeworm, which cannot develop in any other. Again, there is a whole group of diseases, especially the exanthemata, conceivably dependent on micro-parasites; but no one has ever yet shown that a disease can produce a specific organism. In cholera we have instances amounting to actual experimental infection of man—*e. g.*, the infection of those who are engaged in washing linen soiled by choleraic dejecta. Such linen contains the bacilli often in a pure form, and if infection occur through this medium, it must be by means of the comma-bacilli, the only microörganism present. The hands may be soiled and the bacilli introduced into the mouth by direct contact or through the food, or drops of the washing water may come in contact with the lips, and thus in some way the human being is fed with a small quantity of a pure culture of comma-bacilli. Another instance was found by Koch in the case of a tank of which the water was used for drinking and other purposes by many people among whom cholera was raging. He found the comma-bacilli in this tank, and learned that the linen of the patients was washed in it. Around the tank were some thirty or forty huts, inhabited by two hundred or three hundred people; of these, seventeen died, the number taken ill not being ascertained. The tank also received the refuse from the dwellings. The Hindoos bathe in the tank, wash their utensils in it, and deposit excreta on its shore; and if a hut has a latrine, its outflow is into the tank. Now, it was found that after a time the bacilli became less abundant in this water, and coincidentally the cholera declined; whereas, had the epidemic been the cause of their presence, and not the result, the number of bacilli should have increased in it.

The whole etiology of cholera, so far as it is known, suggests the view taken as regards the comma-bacilli. They multiply rapidly, soon reach their term, and are supplanted by other bacteria. So in the intestine they multiply, set up irritation and diarrhœa, and all the typical symptoms of the choleraic seizure. Under normal conditions—in animals at least—the bacilli are destroyed in the stomach, and this harmonizes with the important part played by predisposition, and the liability of those to be attacked who are suffering from gastric or intestinal catarrh, or who have overladen the stomach with undigested food, conditions which would facilitate the passage of the bacilli unchanged into the intestine. But the bacillus is limited to the intestine; it is not found in the mesenteric glands or in the blood. How, then, can it destroy life? Probably from the production of a poisonous substance, such as is produced by bacteria in putrefaction. In a gelatine culture of the comma-bacilli with which blood-corpuscles were mingled, the corpuscles became destroyed as the colony grew, and it is probable that the bacilli exert a like destructive influence on other cells. That some poison is produced gets confirmation from the experiments of Dr. Richards, of Goalundo, who fed pigs with choleraic material, death ensuing from convulsions in from fifteen minutes to two and a half hours. This must have been due to "intoxication," and not, as Dr. Richards states, to choleraic infection, for another pig, fed on the intestinal contents of one of those so killed, remained healthy. If it had been choleraic virus, it should have been transmissible. These experiments prove that in cholera the dejecta contain certain substances poisonous to swine, whereas dogs, mice, and other animals are unaffected by it.

Assuming that the bacilli produce a specific poison, the phenomena of cholera may be thus explained: The poison acts locally in destroying the mucous membrane, and, being absorbed, it acts generally, and especially paralyzes the circulatory organs. All the symptomatology of cholera, usually considered as due to the loss of water and thickening of the blood, is explicable on this view. Death may occur in this stage of cholera-poisoning when but few local changes are found, and the intestinal contents exhibit a pure culture of bacilli. If this stage be passed through, there occur necrotic changes—hemorrhages and putrefaction—with symptoms due to the absorption of putrefactive products, usually described as cholera-typhoid. And there is abundant evidence of the cholera virus occurring in the dejecta, and rarely in the vomit. For the further dissemination of the disease it is necessary that the dejecta should be retained in the moist state, for drying destroys their potency; and this fact is borne out by the spread of the disease through the water supply, or more directly by soiled hands, or even conveyance through insects, or blow-flies to food. Drains may be infected, and through them the water supply. As the virus cannot be retained in the dry state, aerial infection seems impossible; nor has cholera ever been conveyed by merchandise or by letters, even if these are not disinfected and fumigated. Cholera can only be spread by human intercourse—a fact sometimes wanting in proof because it is overlooked, for the mildest case may be as infective as the most severe. The diagnosis of such mild cases by the detection of the comma-bacillus becomes thus of much importance.

That the virus can be reproduced and multiplied outside the body is apparent, since the bacillus can be cultivated artificially, and its growth is not affected by comparatively low temperatures. Probably it does not grow in streams and rivers, where, owing to the current, a sufficient concentration of nutrient substance does not occur; but in stagnant water and at the mouths of drains, etc., vegetable and animal refuse may accumulate and afford the necessary nutriment. Thus is explained the propagation of cholera by the subsoil water, and the increase of epidemics with the sinking of its level, which lessens the flow and diminishes the amount of surface water.

Admitting the dependence of cholera upon this microorganism, it is impossible to conceive the disease having an autochthonous origin in any particular place; for a bacillus must obey the laws of vegetable life, and have an antecedent; and since the comma-bacillus does not belong to the widely diffused microorganisms, it must have a limited habitat. Therefore the occurrence of cholera on the delta of the Nile does not depend on its resemblance to the delta of the Ganges; but the disease must have been imported there as it is into Europe. It was once thought that an outbreak in Poland had a local origin until it was discovered to have been introduced from Russia. Again, about ten years ago, there was a sudden outbreak at Hamar (Syria), thought to be an instance of local origin, but erroneously, as shown by a statement of Lortet, who told Koch, when at Lyons, that the epidemic had been introduced into Hamar, where he was at the time, by Turkish soldiers from Djeddah. Indubitable instances of local epidemics arising outside India are not known, and everything confirms the view gained by experience that the cholera is due to a specific organism having its home in India. It used to be thought that the disease had started from Ceylon, Madras, or Bombay, but there is now general concurrence in regarding Bengal, the delta of the Ganges, as the original source. This is the only region where the disease never varies from year to year, for although some other regions, as Bombay, are never free from it, yet it is highly probable that this is due to its continued reintroduction. The upper region of the Ganges delta is thickly populated; the lower district, Sondarban, covering an area of 7500 English square miles, is uninhabited, and here the Ganges and Brahmapootra break up into a network of watercourses. The district abounds in luxuriant vegetation and in animal life, and is the seat of inundations and the home of pernicious fevers. Here it is probable, where the vast amount of decomposing vegetable and animal life affords a suitable soil, that the cholera bacillus flourishes. All great epidemics begin with an increase of cholera in South Bengal. The inhabitants of Lower Bengal dwell in huts raised on mounds to protect them against inundation, the excavations thus formed making the so-called "tanks," which are very numerous in the district of Calcutta and its vicinity. Since 1870, when new drainage works and water supply were introduced, the mortality from cholera in Calcutta has become much reduced; but the retention of many of these tanks and the nature of the native dwellings still account for the spread of the disease. A remarkable instance of the disappearance of cholera under improved water supply is afforded by Fort William, which used to have many cases annually. Other Indian towns show the same good result of improved water supply—*e. g.*, Madras, Bombay, and Pondicherry, where some years ago the formation of artesian wells banished cholera; and although cases reappeared there last spring, Dr. Furnell, of Madras, ascertained that the cases were limited to the part of the town not yet supplied with these wells.

Although contamination of drinking water may be the chief mode of spread, this is not the only way, and each place has its own conditions, which have to be dealt with. The diffusion of cholera in India depends on human intercourse, especially on pilgrimages, which are carried on to an inconceivable extent—*e. g.*, hundreds of thousands flock yearly to Hurdwar and Puri, remain there many weeks herded together, bathing in the tanks that supply them also with drinking water. Over the borders of India the cholera is carried into Persia, and, in the old caravan days, thence to the south of Europe; but the route is now by the Red Sea and Suez Canal. Every year the danger to Europe by this route increases, for Bombay, which is seldom free from cholera, is but eleven days distant from Egypt, sixteen from Italy, and eighteen or twenty from France. It is also clear that the greatest danger lies in ships carrying large numbers of people, as troops, pilgrims, coolies, and emigrants, and not to the merchant vessels with small crews, for in the former the outbreak of an epidemic would be likely to last till Europe was reached. In the reports of the Sanitary Commissioner of India, 1881, it is stated that out of two hundred and twenty-two coolie ships, carrying from three hundred to six hundred, which had left India for American colonies in ten years, thirty-three had cholera on board, and in sixteen the epidemic lasted more than sixteen days.

Why outbreaks of cholera outside of India die out is probably due to different factors. One is that an attack of cholera confers immunity, at least during the period of one epidemic, and whole districts may enjoy a similar immunity for a time; cholera having been in the place one year, passes it by in the next. Another is, that the bacilli do not pass into the "resting state." And a third is the check given to their development by temperatures below 17° C.

In conclusion, Dr. Koch adverted to the subject of treatment, and reminded those who say that such discoveries do not enable us to cure the disease better than formerly, that a rational treatment of most diseases, and especially of infectious diseases, cannot be adopted until their cause and nature are known. But even yet the discovery of the cholera bacillus is important, as furnishing an aid in diagnosis which would facilitate the detection of the first case occurring in a district, and the adoption of measures to prevent its spread. Knowing also the nature and properties of the bacillus, and especially the readiness with which it is killed by drying, the right direction of prophylaxis is assured, and the lavish expenditure of disinfectants checked, so that there will not be a repetition of what happened in the last epidemic, when millions of gallons were poured into the gutters and sewers without the slightest need. Even therapeutically, the knowledge of the comma-bacillus may be of value. Diagnosis will be possible in mild cases, and in the early stages of the disease, when treatment is of most avail.

STRAUSS AND ROUX'S CHOLERA RESEARCHES AT TOULON.

In connection with Dr. Koch's remarks it will be interesting to read the following statement which MM. **Strauss** and **Roux** have recently submitted to the Académie de Médecine as the result of their researches on the cholera at Toulon. These researches are the continuation of those begun in Egypt, with Thuillier and Nocard, in 1883. Eighteen autopsies were made under very favorable conditions, and the dejecta, vomit, and urine of numerous patients were placed at their disposal. The first autopsy made dispelled all doubt as to the nature of the disease.

As is well known, repeated efforts were made in Egypt to discover a specific organism in the intestinal coats which could be held responsible for the disease and the lesions. At Toulon these efforts were renewed.

According to Koch, the cholera in Egypt and that in India was characterized by the presence in the intestinal mucosa of a characteristic bacillus. The observations made by MM. Strauss and Roux at Toulon fully confirm those they made in Egypt, to wit: that in the intestinal mucous membrane of certain cholera patients the most diverse organisms were found, especially if the disease had lasted for some time. But in the more rapid cases they were much less numerous, and in subacute cases could not be found at all. Of the eighteen intestines of cholera cases examined at Toulon, eleven, or more than one-half, contained no microörganisms, in spite of the most careful examination. Upon conference with Dr. Koch, on his arrival at Toulon, they found that their methods of coloring were identical with his. They maintain, therefore, that in a large number of cases of cholera (and particularly in the more characteristic cases) no microörganisms are found in the intestinal tunics.

In his fifth and sixth reports, from Calcutta, Koch gives precise details as to the organism which he regards as the cause of cholera. The cholera bacillus, he says, is not entirely straight, but more or less curved, etc. At Toulon, while wishing to show his methods for finding the microbe, he used no special color-procedure. A small amount of dejecta was spread out in a thin layer and dried; the preparation thus obtained was slightly heated and colored with an aqueous solution of aniline or methylene blue. When, as was systematically done at Toulon, MM. Strauss and Roux examined the characteristic cholera stools, it was seen that they contained a great number of different micro-organisms, and in many cases there were a small number of comma-shaped organisms. The intestinal contents, removed from the bodies under the most favorable circumstances, showed also, in the greater number of cases, various kinds of microörganisms, among which were the comma-bacilli, but they did not seem to predominate over the others. In thirteen cases, also, examinations, made under favorable circumstances, of the contents of the small intestine, showed the comma-bacilli in large numbers in three cases; in four cases only a small number were found; and in five cases they were absent. It is true that the conditions regarded by Koch as particularly favorable for finding the comma-bacilli are of short duration; according to him only the stools which are fecal from the commencement of the attack, and not those which are passed during the period of reaction are favorable; and he recommends the examination of the contents of the small intestine—taken promptly from a subject who has died during the algid period of a rapid case of cholera.

In a fulminant case, the autopsy of which was made by Koch, MM. Strauss and Roux found the small intestine lined with a sort of grayish-white, stringy mucus, a portion of which, when spread out in a thin layer and colored, showed a large quantity of comma-bacilli. They were, so to speak, in a pure culture in this mucus. In the eighteen autopsies which they made, they found in one other case, in which death had supervened very quickly, the same appearance in the small intestine, and the same abundance of the comma-bacilli.

These cases are very seductive, and lead one to accord an important *rôle* to the comma-bacillus in cholera; but there are others, and they are the more numerous. The variety of organisms which is found in the intestinal contents is so great that no one appears to preponderate over the others. In these cases Koch resorts to culture in order to bring out the comma-bacillus.

During cultivation, these organisms are sometimes joined end to end, and then take the form of an S, or the form of spirilli. It is this appearance of the culture in gelatinized bouillon which Koch regards as characteristic. The comma organism requires an alkaline medium for its development, and multiplies with great rapidity in most alkaline media at a temperature between 60° and 107° Fah. It is certain, then, that there often exists in the rice-water discharges, and in the intestinal contents of cholera patients, a bacillus shaped like a comma; and that in certain cases this bacillus is found in a state of almost purity in the mucus lining the intestine. Is one justified in concluding that the comma-microbe is the organism of cholera? MM. Strauss and Roux answer no. In default of the direct proof which the inoculation of the comma-microbe upon animals would furnish (and all such experiments have so far failed), Koch is obliged to show that the organism which he describes is only found in the intestine of the cholera patient, and never in the healthy man, or in persons with any other disease than cholera. And to do this a great many experiments would have to be made, for it would be only necessary to find it once in a disease other than Asiatic cholera to settle the question definitely. Furthermore, the comma organism cannot of itself be regarded as characteristic of cholera, for it has been found in products which have nothing to do with cholera. Maddox, of London, has photographed a comma-shaped microbe, which he found in a reservoir of water; and Malassez has shown them, in a preparation of dysentery stools, and amongst many other organisms, bacilli of a well-characterized comma form. In the vaginal mucus of women with leucorrhœa, and in the mucous uterine secretion of a woman who had commencing epithelioma of the cervix, they have found bacilli of a comma shape like those of cholera. The comma form is not, therefore, characteristic of cholera. It is very important to try, in the cases which they have cited, to isolate by cultivation the microbes which have a similar form with those described by Koch, and to see how they comport themselves in different media. This is the only way in which they can be distinguished.

If the comma-bacillus be the true cause of cholera, as it only resides in the contents of the intestines, and as in the rapid cases it does not invade to an appreciable extent the intestinal mucosa, it must be admitted that, in order to produce such rapid and intense effects, it secretes a soluble ferment, a ptomaine, or some poison, very energetic, which causes symptoms of cholera when absorbed. Attempts should therefore be made to extract from the pure cultures in which the bacilli have lived, a soluble poison which will reproduce in animals symptoms analogous to those observed in cholera patients. It would be also interesting to know if the comma-microbe is found in cholera nostras.

In their report on the cholera in Egypt, MM. Strauss and Roux mentioned the presence in the blood of cholera patients of extremely fine particles resembling organisms. At Toulon the same appearance was observed in many cases, but was wanting in a few. They think that these particles are due to a special alteration of the hæmoglobin, and this opinion is in accord with that of Malassez.

REVIEWS.

THE LAWS OF HEALTH: PHYSIOLOGY, HYGIENE, STIMULANTS, AND NARCOTICS. FOR EDUCATIONAL INSTITUTIONS AND GENERAL READERS. Copiously illuslustrated. By JOSEPH C. HUTCHISON, M.D., LL.D., Author of a Treatise on Physiology and Hygiene; Ex-President of the New York Pathological Society, etc.; late President of the Medical Society of the State of New York, etc. Pp. 223. New York: Clark & Maynard.

THE production of this volume of popular hygiene and care of the health, by a gentleman of Dr. Hutchison's eminence in the profession, is a step, and a long step upon good firm ground, in the right direction. The more it is possible to educate the rising generation, the hope of America, in the judicious management of their own bodies so as to prevent disease and premature death, the more certainly may we expect an improved race of mankind to follow in our footsteps. And just in proportion as we can aid to dissipate the shadow of ignorance which covers the bodily functions in health and illness among the people, will we deliver them from the dominion of the various medical heresies and delusions, which prey upon their longevity, vigor, and estates, and contribute our professional share toward discharging the great philanthropic duty of leaving the world better than we found it.

This work is singularly adapted to the object it has in view, being throughout strictly accurate and thoroughly scientific in statement, and yet at the same time perfectly clear and comprehensible to even a child's intellect. The dryness of mere anatomical detail is made interesting by the association with it of descriptions of function, and practically useful by demonstrating the invaluable assistance afforded by this kind of knowledge to human beings in their great business of preserving health.

The bones, muscles, and skin are first considered; then follow chapters upon food and drink, digestion, circulation, and respiration; the nervous system, the special senses, and the voice being appropriately discussed after the attentive pupil has gained a general comprehension of nature's methods of construction and operation. A valuable appendix contains directions for the treatment of poisoning, drowning, and other medical or surgical emergencies, comprising a most important part of that general medical knowledge which it is the duty, and should be esteemed the privilege of every true physician to popularize on all suitable occasions.

The numerous figures of this book are excellent, and admirably illustrate what they are intended to aid in explaining, and, indeed, the mechanical execution in every respect reflects great credit upon the publishers.

Dr. Hutchison's Laws of Health comprise one ordinance in regard to alcohol, which he declares on p. 52, the organs of the body "abhor," that will, no doubt, stir up much adverse criticism of the volume, which, however, we think it will prove itself quite able to endure without serious injury. On the other hand, it should receive everywhere enthusiastic praise from the advocates of temperance, whose views it teaches so earnestly, and yet with the exception quoted above, so justly and temperately, as to commend the exposition to honest seekers after truth, upon this momentous question of the day, and still more of the coming century.

CORRESPONDENCE.

RAPID GENERALIZATION.

To the Editor of THE MEDICAL NEWS.

SIR: As we claim for medicine the name of a science, or, rather, a group of sciences—etiological, pathological, diagnostic, and therapeutic—it is important for the cautious scientific spirit to be cherished in our investigations. Is it always so of late?

I do not propose to add now to the discussion of the *bacillus tuberculosis;* merely observing that the published results of Wargunin (mentioned in an editorial in THE MEDICAL NEWS of August 9) strongly confirm the view that all needful evidence is not yet in on that subject.

Dr. Robert Koch is a splendid minute observer and patient master of mycological experimentation; but it does not follow that he is also a master of inductive and deductive reasoning. Cholera is not a new subject of investigation, although the comma-shaped bacillus is so stated to be. As to this, however, *Science*, of July 25, 1884, contains the following statement: "In the report of the Surgeon-General of the Navy for 1881 (Washington, 1883, p. 70) are to be found photo-micrographs, and a short account of a comma-shaped bacterium, a rather unusual form, observed by Surgeon J. H. Kidder in water through which air had been aspirated (summer of 1881), and in well-water near Washington (1883). . . . . Dr. Kidder supposed the form which he photographed to be the same as, or very similar to, that noted and figured by Billroth (*Untersuch. über Cocco-bacteria Septica*, Berlin, 1874, taf. ii., B. C.), found in the droppings from an imperfect water-faucet in his work-room, and called by him syphonomyxa nostocomii Vienniensis."

While, however, the asserted association of the comma-bacillus with cholera belongs clearly to Dr. Koch, it is not too great boldness to follow such an authority as Virchow in denying, as he is reported to do, that the bacillus has not yet been proved to be the *cause* of cholera. Several things are in the way of this. Why should no bacilli be found in the stomach, as well as in the intestines? Surely, the rice-water vomit is as characteristic as the discharges from the bowels. Especially is this notable in connection with the current supposition — very erroneously called a "demonstrated fact"—that drinking-water, specifically contaminated, is the only medium of propagation of the disease. How can bacilli enter by drinking-water, except through the stomach?

Pasteur has well criticised some of Koch's practical recommendations. The latter, for example, fears the proposed purifying use of water, because drying most rapidly kills the bacilli. Yet abundant evidence everywhere establishes the beneficial action of water, freely used, as Nature's best disinfectant; most efficient, it is true, in the form of highly heated steam.

Consul Mason's acceptance of the "transportation" of the cholera all the way from China, in a specified vessel, at a time when no cholera was known to exist in that country, and when the official head of the French Naval Sanitary Bureau denied the fact of any such conveyance, was quite too ready, originating, no doubt, in the same conviction (viz., that there must have been some such transportation) as that which induced Dr. Koch to assert that it was brought by some English vessel whose officers falsified its health record.

Such strong effect do prepossessions in favor of foregone conclusions have upon the minds of men in and out of the profession, that facts glaringly in the way of these conclusions are systematically ignored. Of this nature, in regard to cholera, are some facts amply authenticated and publicly recorded from time to time. I may mention now only the following: During the summer of 1854, two packet-ships of the Copes' Line, between Liverpool and Philadelphia, the "Tonawanda" and "Tuscarora," were attacked with cholera in mid-ocean (the former two weeks out from port) when no cholera at all existed at Liverpool when they left. Conversing recently on these occurrences with a member of the shipping firm which was then running those packets, he stated to me his knowledge also of one instance in which a ship going from *Philadelphia toward Liverpool*, when no cholera existed at either place, was attacked in midocean with the disease.

If we had some of the patience in getting *all* the facts which led Kepler to try nineteen other hypotheses before concluding on his three great laws, and which induced Newton to delay for years the announcement of his law of gravitation, because a few facts concerning the moon's motion did not appear to agree with it, medical science would gain in credit and usefulness. If, for example, the idea which commonly prevails in India were regarded at least with some question and toleration in Europe and America, that cholera is not contagious, but a *migratory epidemic*, travelling on its own caprice, and fastening upon filth-spots wherever it goes, the annoyances, not to say horrors, of lazarettos would be abolished, and rational measures of sanitary improvement would go on to extinguish the disease. It is satisfactory to know that a British commission is about to proceed to study cholera in India. One, at least, however, of those named upon it is, from his antecedents, sure to see microbes chiefly; and one must see some things besides microbes to reach valid scientific conclusions on so large and many-sided a subject.

Henry Hartshorne, M.D.

Philadelphia, August 26, 1884.

OBITUARY.

Surgeon Joseph Janvier Woodward, U. S. A.

Brevet Lieutenant-Colonel Joseph Janvier Woodward, Surgeon, U. S. Army, who died near Philadelphia, on Sunday, August 17, 1884, at 1 P.M., was born in Philadelphia, October 30, 1833, and at the time of his death was not quite fifty-one years of age. He was educated at the Central High School of that city, and, in 1850, received the degree of A. B. He devoted himself to the study of medicine, and graduated from the University of Pennsylvania in 1853. Two years later, in 1855, he received the degree of A. M. from the Central High School, acting as the valedictorian of his class. Immediately after his graduation, he entered energetically upon the practice of his profession in his native city, devoting a large portion of his time to that branch in which he afterwards achieved such a decided success—the microscopical investigation of pathological anatomy, and of kindred subjects. On May 17, 1858, he read before the Biological Department of the Academy of Natural Sciences, in Philadelphia, a paper "On the Minute Anatomy of Three Cases of Cysto-carcinoma," which will be found on page 54 of The American Journal of the Medical Sciences, for July, 1858. Other papers, read before the same Society, followed rapidly: "Remarks on Anatomical Diagnosis of Cancer," November 15, 1858; "On Suppuration in Cancerous Growths," March 21, 1859; "On Errors in the Anatomical Diagnosis of Cancer," December 4, 1859; and "On a Secondary Cancer of the Axilla," January 16, 1860.

When the war broke out in 1861, he offered his services to his country, and entered the Army as Assistant Surgeon, U. S. A., on August 5, 1861. He was with the Second Artillery, in the Army of the Potomac, until May 19, 1862, when he was assigned to duty in the office of the Surgeon-General in Washington, where he located and organized several hospitals, and, for a brief period, was in charge of the Patent Office Hospital. Relieved from this duty, he was placed in charge of the Pension Division of the Surgeon-General's Office and of the Medical Section of the Army Medical Museum, which had then been opened for the collection of specimens of morbid anatomy, surgical or medical. At the same time, the task was assigned to him of collecting the material for the *medical* portion of the *Medical and Surgical History of the War*, while his colleague, Dr. Otis, had charge of the collection of material for the *surgical* history and the surgical branches of the Museum collection. Both these officers prepared reports on the material available, which were published as "Circular No. 6" of the Surgeon-General's Office, on November 1, 1865. The second half of the circular, which was very favorably received by military surgeons, was prepared by Dr. Woodward. In the following year, he made a report "On Epidemic Cholera in the Army of the United States during the Year 1866," which appeared as "Circular No. 5," Surgeon-General's Office, on May 4, 1867, and which was followed in June, 1868, by "Circular No. 1:" "Report on Epidemic Cholera and Yellow Fever in the Army of the United States during the Year 1867."

In the meantime, the collection of the material for the *Medical History of the War* had progressed rapidly, and, on November 12, 1870, he issued his first volume of 726 pages, quarto, containing a series of statistical tables, presenting a summary view of the facts embodied in the monthly reports made to the Surgeon-General with regard to the sickness of the Army, the deaths and the discharges on surgeon's certificate of disability.

After the close of the war, he had returned with increased fervor to his investigations in microscopy, and especially in photo-micrography, and the results of his experiments, which made him famous in Europe as well as at home, were given in a series of publications which followed each other in rapid succession:

Report on the Magnesium and Electric Lights as applied to Photo-micrography. 6 pp., 4to., 11 photographs. Surgeon-General's Office, 1870. *Report on the Oxy-calcium Light as applied to Photo-micrography.* 3 pp., 4to., 2 photographs. Surgeon-General's Office, 1870. *Report on an Improved Method of Photographing Histological Preparations by Sunlight.* 10 pp., 4to., 11 photographs. Surgeon-General's Office, 1870. *Report on the Histology of Minute Bloodvessels.* 8 pp., 4to., 11 photographs. Surgeon-General's Office, 1871. *Report on the Minute Anatomy of Two Cases of Cancer.* 10 pp., 4to., 2 photo-lithographs. Surgeon-General's Office, 1872. *Memorandum on Pleurosigma Angulatum and Pleurosigma Formosum.* 4 pp., 4to., 8 photographs. Surgeon-General's Office, 1871. *Memorandum on Surirella Gemma.* 1 p., 4to., 2 photographs. Surgeon-General's Office, 1871. *Memorandum on the Test Podura.* 3 pp., 4to., 5 photographs. Surgeon-General's Office, 1871. *Memorandum on Amphipleura Pellucida.* 1 p., 4to., 2 photographs. Surgeon-General's Office, 1871. *Memorandum on the Nineteen-band Test-plate of Nobert.* 4 pp., 4to., 9 photographs. Surgeon-General's Office, 1872. *Four Letters to the Surgeon-General, accompanying Photographs of the Mosquito, certain Parasites, the Proboscides of certain Flies, and Miscellaneous Photographs of Insects and Parts of Insects.* 8 pp., 4to., 35 photographs. Surgeon-General's Office, 1872. *Remarks on Photographic Micrometry in Trans. of the American Medical Association, 1876; Application of Photography to Micrometry, with Special Reference to the Micrometry of Blood in Criminal Cases. Ibid.*

In 1876 he had charge of the representation of the Medical Department of the United States Army at the International Exhibition at Philadelphia, and the success of the medical exhibition was mainly due to his energy and activity. During the succeeding two years he devoted himself entirely to the preparation of the second *medical* volume, which appeared on March 25, 1879. The work treats on the "Alvine Fluxes," and will be a lasting testimony of the zeal and indomitable perseverence of the author. In careful and painstaking research of the literature of the subject, it surpasses all previous publications. The anxious pursuit of this work had gradually undermined his constitution, never very robust, and, in the summer of 1880, he went to Europe to regain his health. He returned in a somewhat improved condition, but unfortunately was again prostrated by a fall from his horse in the spring of 1881, by which he fractured his leg. Barely recovered from this accident, he was called, in July, 1881, to the bedside of the lamented President Garfield. His quiet and patient services, frequently under a flood of abuse from professional as well as non-professional journals, in this new field of action are too recent to need to be recalled. We will only here state that he kept full notes of daily, even hourly observations of the patient's condition, which he intended to publish as a defence, if such were needed, at some future time. Sickness and death have despoiled him of this opportunity.

Time and space have allowed us to refer only to a few of the numerous publications of this indefatigable worker. A close observer, tenacious in his convictions of what he conceived to be right, writing to the point without flourish or embellishment, fearless in the expression of his views, courting rather than avoiding criticism, he was ever ready to enter the lists in defence of his opinion.

Dr. Woodward's last editorial work was his obituary notice of his colleague Otis, which appeared in the AMERICAN JOURNAL OF THE MEDICAL SCIENCES, July, 1881.

"For faithful and meritorious services during the War," Dr. Woodward received the brevet ranks of Captain, Major, and Lieutenant-Colonel, and on June 26, 1876, was promoted to the rank of Major and Surgeon. He became a member of the American Medical Association in 1865, and in 1881 was chosen its President, being the first medical officer from the Army to whom this honor was accorded. He was a member of the College of Physicians of Philadelphia, of the National Academy of Sciences, of the Philosophical Society of Washington, an honorary member of the Royal Microscopical Society and of the Quekett Club of London, of the Liverpool and Belgian Societies of Microscopy, and of many other societies in this country as well as in Europe.

His decease adds another name to the list of prominent men connected with the Surgeon-General's Office, whom death has removed within the brief period of three and a half years. On February 23, 1881, occurred the death of G. A. Otis, the famous author of the history of the surgery of the war. Two years later, on April 5, 1883, Brigadier General J. K. Barnes, who had watched by the bedsides of two martyred Presidents, passed away, and, on October 10, of the same year, Surgeon-General C. H. Crane, at whose suggestion both Woodward and Otis had been selected as the compilers of the Medical and Surgical History, died after a brief illness.

NEWS ITEMS.

YELLOW FEVER ITEMS.—The case of yellow fever taken off the U. S. S. "Galena," at Key West, Fla., has recovered, and no further cases of the disease have appeared, either on the "Galena" or at Key West.

Sanitary Inspector Ross, stationed at Nogales, Arizona, reports that he examined 149 passengers on the Sonora Railroad, from the infected districts of Mexico, fumigated their baggage, and quarantined 29 through passengers to the United States. He reports 9 deaths from yellow fever at Hermosillo on the 10th inst., 6 on the 11th, and 4 on the 12th, among them a Catholic bishop.

The U. S. Consul at San Juan, Porto Rico, reports the death by yellow fever of the Governor-General of the Province. He adds, the yellow fever is much more fatal this season than for many years previous. Usually the disease has been confined to unacclimated Spanish residents just arrived, and to the troops, but for the past two months there have been very many fatal cases among the Creoles of the island, and within the last ten days there have been three deaths of Spanish officers, besides the Governor-General, holding high grades in the army. The epidemic, he says, is not confined to the Capital, but prevails with more or less fatality in the principal ports and towns of the whole province.

The Nature of Cholera and Precautions to be Observed in Time of Cholera.—The following rules drawn up by Drs. Koch, Skrzeczka, and von Pettenkofer, the Commission of experts appointed by the Prussian Board of Health, have just been officially promulgated:

Cholera is propagated by intercourse between people, and the infectious material clings, without exception, to men and the articles with which they come in immediate contact. The spread of the disease will be very greatly promoted, as experience has often shown, if, on its appearance in large places, the inhabitants take to flight and spread the germ of the disease far and near. This especially dangerous exodus of the population must be severely prohibited. Instead of thus leaving the infected place, it is easier to protect one's self from cholera by a proper mode of living and by observing the following precautionary measures, which cannot be done so well while travelling or away from home:

Every one, who would not endanger himself by receiving the germ of the disease into his house, should keep away from them those who come from stricken places. As soon as the first case of cholera appears in a place, the persons coming from that place must be considered as in all probability bringing the disease germ with them.

In time of cholera one should lead as regular a life as possible. Experience has shown that all troubles of digestion especially favor cholera. One should, therefore, particularly avoid whatever may cause digestive troubles, as excesses in eating and drinking, and the use of food not easily digested.

Everything which causes diarrhœa should be avoided. As soon as symptoms of diarrhœa appear a physician should be sent for.

No food should be used which comes from a house in which cholera rages. Food, the origin of which is uncertain, should only be used after being cooked. The use of uncooked milk is to be especially avoided.

All water which is fouled by human waste is to be strictly avoided. Water which comes from surface wells in inhabited places, is to be regarded with suspicion, as is also water from swamps, tanks, streams, and small rivers. Water is especially to be regarded as dangerous which has been in any way contaminated by cholera dejecta. It should be particularly observed, also, that water which is used for cleaning vessels and soiled clothes is not thrown into wells and watercourses, or in their vicinity. Since it is impossible to recognize contaminated water, only water which has been previously boiled should be used. These remarks are to be applied not only to water for drinking purposes, but to that which is used about the house for any purpose, since the infecting principle may be conveyed from the human body to the water used in the kitchen for washing and cooking food, and for laundry purposes.

People are especially warned against the opinion that the drinking water alone can act as the bearer of the infecting material, and that one may think himself completely guarded if unsuspicious or boiled water alone be used.

Every cholera patient may be considered a disease centre, and it is therefore advisable that the patient should not be cared for at home, but should be carried to a hospital. If this is not practicable, all unnecessary intercourse with the patient should be strictly avoided.

No one should visit a house in which there is cholera, unless his duty calls him there, nor such houses as were visited by the disease in former epidemics of cholera. Nor should one go to places, in time of cholera, in which large numbers of people are gathered (yearly at fairs, places of amusement, etc.).

No food or drink should be taken in rooms in which there are cholera patients. Clothes or linen soiled by discharges of cholera patients should be burned or boiled immediately, or placed in a 5 per cent. solution of carbolic acid for twenty-four hours. The discharges from cholera patients must, as soon as possible, be placed in vessels which contain a 5 per cent. solution of carbolic acid; and the vessels should be washed out with this solution when emptied. The discharges mixed with this solution may be thrown into necessaries or water-closets, but care must be taken that the discharges are not thrown into wells or into streams the water of which is used.

The floors and all articles soiled by cholera discharges must be cleaned with dry cloths or rags, which must then be burned or placed in a 5 per cent. solution of carbolic acid. Fverything which comes in contact with the patient which cannot be destroyed or be disinfected by boiling, or in the carbolic solution, must be rendered harmless by means of hot steam in a special place of disinfection, or kept at least six days unused in a dry, airy place. The rooms in which there are cholera patients must, whenever possible, remain uninhabited for six days, and should be aired day and night during this time, so that they may be completely dried; and they should finally be dried by artificial heat. Those who come in contact with the patient, or with the beds and clothing, should thoroughly wash their hands with soap and water, and afterwards, when possible, wash them with a 5 per cent. solution of carbolic acid. This is especially necessary when they are soiled with the discharges from the patient. People are expressly warned against eating when the hands are unclean.

When death occurs the body, whenever possible, should be removed from the house and carried to a dead-house. If the washing of the body cannot be performed in the dead-house it should be omitted. The burial should be conducted in the simplest manner possible. There should be no attendance at the house of death, and people should not attend the funeral.

The clothing, linen, and other articles used by the patient, or for the body, should not be sent away before being certainly disinfected. It is strongly advised that when such articles are received they be sent immediately to be disinfected. Laundries should only receive linen from cholera cases which has been previously disinfected. Other precautionary measures than those here given against cholera are unreliable, and all persons are warned against the use of so-called preventive medicines in time of cholera.—*Deutsche med. Wochensch.*, August 7, 1884.

Obituary Record.—Died, at Hartford, on August 21st, aged forty years, **Charles Walter Chamberlain**, M.D., Secretary of the State Board of Health of Connecticut. Dr. Chamberlain was educated in the arts at Brown University, and in medicine at the College of Physicians and Surgeons of New York, and graduated from the latter institution in 1871. He was for a number of years Examining Surgeon to the Pension Bureau, and was well known throughout the country as a distinguished sanitarian.

[OFFICIAL.]

War Department, Surgeon-General's Office,
Washington, D. C., August 20, 1884.

In announcing to the Officers of the Medical Department the death of **Joseph Janvier Woodward**, Surgeon and Brevet Lieutenant-Colonel, U. S. Army, which occurred near Philadelphia, Pa., August 17, 1884, the Surgeon-General wishes to offer his tribute of respect to the memory of the deceased, whose distinguished career and valuable services, for a period of twenty-three years, have shed lustre on the Corps, and for whose untimely loss feelings of profound regret will be shared alike by his comrades in arms and by the profession at large.

Doctor Woodward was born in Philadelphia, Pa., October 30, 1833, and was educated at the Central High School of that city, graduating with honor as Bachelor of Arts in 1850, and receiving the degree of Master of Arts from the same institution in 1855.

He graduated in medicine at the University of Pennsylvania, April, 1853; entered the Army as Assistant Surgeon, August 5, 1861; became Captain and Assistant Surgeon, July 28, 1866; Major and Surgeon, June 26, 1876. "For faithful and meritorious services during the War" he received the bievets of Captain, Major, and Lieutenant-Colonel, U. S. Army.

He was assigned to duty in this Office May 19, 1862, and from that date until the beginning of the illness which terminated in his death was intimately identified with its professional and scientific work.

While the valuable results of his life's labor are comprehended in a long list of miscellaneous publications, both professional and scientific, too familiar to the Corps to require individual mention, his greatest triumphs were won in the field of microscopical investigation in normal and pathological histology, and in his happy application of photo-micrography to the purposes of science. In these pursuits, he attained remarkable success, and achieved an enviable, world-wide reputation, leaving to science and medicine lessons of undoubted value and usefulness. Of his strictly professional work, the medical portion of the *Medical and Surgical History of the War of the Rebellion* was the crowning achievement. In the second part of this work, he developed the results of his careful investigations into the nature and pathology of the intestinal diseases which had proved so fatal in the late war. Here, also, he displayed his wonderful capacity for that minute and exhaustive research which forms so striking a feature of his writings.

As in the case of his colaborer, Otis, he yields to other hands the honor of completing his labors.

In addition to his engrossing professional duties, his restless activity of mind led him to seek recreation in his favorite studies, physics, art, and philosophy.

Endowed with a retentive memory, and of untiring industry, he acquired a vast store of information which he held available for use at will; fluent of speech, he took delight in the expression of his views and opinions both in social converse and in the arena of scientific debate.

His fund of knowledge, his strong convictions, his tenacity of opinion, and his quick perception made him a controversialist of no low order.

With such a record, it is needless to speak of his zeal, his ambition or his devotion to his profession, and especially to the reputation of the corps of which he was so bright an ornament.

Of a sensitive, highly strung, nervous organization, the confinement, anxiety, and labor to which he was subjected in his attendance upon the late President Garfield during his long illness, proved too much for a mind and body already overstrained by incessant labor, and precipitated the illness which finally terminated his life.

At the time of his death, Dr. Woodward was a member and Ex-President of the American Medical Association, a member and Ex-President of the Washington Philosophical Society, a member of the National Academy of Science, of the Association for the Advancement of Science, of the Academy of Natural Sciences of Philadelphia, and of the College of Physicians and Surgeons of Philadelphia. He was an honorary member of several American and foreign scientific, medical, and microscopical societies, and the recipient of many distinguished honors from learned bodies in this country and abroad.

R. Murray,
Surgeon-General, U.S.A.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 19 TO AUGUST 25, 1884.

Crampton, Louis W., *Captain and Assistant Surgeon.*—To report at Creedmoor, Long Island N. Y., not later than August 30th, as Competitor, and, in addition thereto, as Medical Officer of the Detachment of Competitors.—*S. O. 41, Division of the Atlantic*, August 20, 1884.

Cochran, J. J., *First Lieutenant and Assistant Surgeon.*—Assigned to duty at the Presidio of San Francisco, Cal.—*S. O. 81, Division of the Pacific*, August 16, 1884.

Wilson, Geo. F., *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Fort Walla Walla, W. T., and to take station at Vancouver Barracks, W. T.—*S. O. 120, Department of the Columbia*, August 13, 1884.

Fisher, W. W. R., *First Lieutenant and Assistant Surgeon.*—When relieved by Assistant Surgeon Cochran to report, in person, to Commanding General Department of Arizona, for assignment to duty in that department.—*S. O. 81, C. S., Division of the Pacific.*

THE MEDICAL NEWS.

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ORIGINAL LECTURES.

AN ADDRESS ON ABDOMINAL SURGERY.

Delivered, August 25, 1884, before the Canadian Medical Association at its Annual Meeting in Montreal.

BY LAWSON TAIT, F.R.C.S.

SURGEON TO THE BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN, BIRMINGHAM, ENGLAND.

MR. PRESIDENT AND GENTLEMEN: Every gardener knows that a plant long grown on the same soil rises or sinks, or somehow or other gets to a level from which it varies not so long as its conditions remain the same; and he knows as well, that if he takes that plant to a new soil which suits it, if he grows it under new conditions, its growth and change and development are practically endless. What we know of plants is, within limits, true of humanity, and if we require proof and illustration of this where need we go but to this endless continent of yours?

I am not at present concerned with natural boundaries created by languages which come from Sweden and Poland, Denmark and Scotland, Russia and Ireland, which temporarily limit intercourse between different peoples who perhaps settled here. Still less do I trouble about a line on the map which marks a practical republic on the south from a splendid democracy on the north. I have only to do with the great fact in human history—I think the greatest fact—that from out of the troubles and distresses of our eastern countries, or out of the countries oppressed by over-population, and still more by the effete policies of governments of past centuries, dislocated into modern life, from these there has come a great country and a great people, whose growth, change, and development promise to be practically endless.

Of my own country and of my own people you will not expect me, you would not wish me, to say anything disparaging. We are an old and respectable race, and by virtue of your descent you share that age, and you have brought over with you a full share of the respectability. But in transit you have lost that questionable virtue of extreme conservatism which we retain in every conceivable phase of life. We used to have mail-coaches protected against robbers by armed men, properly called guards, and we continue to call our railway servants guards, without the slightest reason save that they seem to be in some fashion successors to the blunderbuss-bearers of the eighteenth century. On the other hand, you very properly name the same officials conductors. We still build our railway carriages in compartments fitted to hold six people—confined boxes that are stuffy, inconvenient, wasteful of room, and dangerous—and we do this only because one hundred years ago we built our stage coaches on this pattern. Fifty years ago we thought, and we continue to think, that by sticking three of these old coaches end to end we must of necessity construct the best kind of vehicle for railway travelling. Untrammeled by tradition, you have contrived to build carriages far more convenient and suitable in every way. You have even sent them over to England for our use some ten years ago, but they had actually to be removed from some of our railways because the public would not use them.

I might gather further illustrations of that intensely conservative spirit which governs everything English. I might wander into the lines of religion and politics and hundreds of other sources, but I prefer to take one of which I can speak at length and in detail; one upon which I believe, if I read aright the compliment you pay me by asking me to appear here before you, I can speak with some authority.

In my early days the medical education of a British youth was not considered complete unless he had made a tour of the schools of France and Germany, and, like others, I felt of myself as was said of Proteus:

> "'Twould be a great impeachment to his age
> In having known no travel in his youth."

But I wish now that the time and money therein spent had been directed to the western instead of to the eastern continent; and I now venture to predict that ere long it will be to the medical schools of America rather than to those of Europe, that our students will travel, as did the apprentices of old before they settled down to the serious exercise of their craft.

For many years past I have been visited by numbers of my professional brethren from this side of the Atlantic, many of whom have settled down for days and weeks, and even months, to see my work. I have been overwhelmed by the kindliest invitations to visit this continent, but till now I have never ventured across. This delay is an instance of British conservatism, for it is very little the fashion amongst us to take long holidays. My American visitors have one and all impressed me with their possession of that feature of mind which in England I fear we do not possess—the power of judging any question solely upon its merits, and entirely apart from any prejudice, tradition, or personal bias. No matter how we may struggle against it, tradition rules all we do; we cannot throw off its shackles, and I am bound to plead guilty to this weakness myself perhaps as fully as any of my countrymen may be compelled to do. I may have broken free in some few places, but I know I am firmly bound in others, and my hope is that my visit to a freer country and a better climate may extend my mental vision.

To come to my intended illustration, let me briefly remind you of the early history of abdominal surgery. The first operation for the removal of an ovarian tumor was performed unwittingly in 1701, in a Scotch village, by Robert Houston, who began a tapping, and finished by making a successful ovariotomy. It was not until 1809, eighty-six years after Houston's case was published, that his example was imitated, and even then it was not in Europe, but in the fresh soil of the backwoods of Kentucky that the young seedling obtained its first full growth, and from that time and from this country dates the history of abdominal surgery. But how slow the growth? In 1863, I heard my master, the Professor of Surgery in the University of Edinburgh, settle all this vast field of human progress in the few words, "abdominal surgery is abominable surgery." Syme, the greatest surgeon by far with whom I have ever come in contact, shared the views of his colleague in this matter, and I fear that in both of them the sentiments originated far less in the merits of the question before them than in their mutual dislike (almost the only sentiment they had in common) of John Lizars, who, having read MacDowell's manuscript when it was sent to John Bell, was immensely struck by the success of the heroic Kentuckian, and was desirous of following his brilliant example. Most unfortunately for humanity, the success of Lizars was of a very doubtful kind, and abdominal surgery had to wait for the advent of Dr. Charles Clay and Mr. Isaac Baker Brown. The story of the latter brilliant and unfortunate surgeon is now a thrice-told tale, and I can only repeat here what I have said at length elsewhere, that his disastrous downfall was a misfortune for humanity, delaying, as it did, the progress of abdominal surgery for fully a quarter of a century. The whole question of this progress lay in the peculiarly narrow issue as to whether the pedicles of ovarian tumors should be dealt with inside the peritoneum or outside it. Here again the new country was first in the race, for between 1820 and 1830 the decision in favor of the intraperitoneal treatment was given in America in such a way that the question ought never to have been reopened. The arbitrament of abdominal surgery between 1866 and 1876 was left in the hands of a man still living, and he carried through his practice a mortality so heavy as to be absolutely prohibitive of fresh enterprise. Mr. Baker Brown left off practice in 1866, with a mortality of ten per cent. with the cautery; whilst, after operating on a thousand cases, Sir Spencer Wells had a mortality of twelve per cent. with the ligature in the last hundred; and over the whole thousand the mortality was exactly twenty-five per cent. With such results as these, the marvel is not that the conservative surgeons cried out twenty years ago that the craft was in danger, but that the removal of ovarian tumors ever became an accepted operation at all.

As I have said over and over again, and as I shall never tire of saying, to Keith is due the whole credit of the modern development of abdominal surgery, and it has ever seemed to me specially hard that while wealth and a title have been the lot of the man who had done nothing but obstruct progress, to the author of our present proud position nothing has come save a good deal of misrepresentation and abuse.

In 1878, the doctrines and practice of Lister, after twelve years of preaching on the part of their author, had penetrated to London, and were taken up by Sir Spencer Wells and his assistants. I had practised all the details in their ever-varying form, as recommended by Mr. Lister, from 1866 onwards, and gave them up, one after the other, as I found they disappointed and hindered me. Finally, I gave the spray and its adjuncts a long and complete trial, a trial far more careful in its details than anything I ever saw elsewhere, this trial extending over three years. I have published in detail the disastrous results of this experiment, and at last I gave up all these unnecessary dangers, and since January 7, 1881, my practice has been entirely free from all these details. Since then my example has been followed by Dr. Keith, Dr. Bantock, and by my colleague, Dr. Savage, and the only surgeon now who uses the Listerian details for abdominal surgery is Mr. Knowsley Thornton. He still claims for Listerism the most of our present progress, in spite of the fact that Keith, Bantock, Savage, and myself have all far better results without Listerism than Mr. Thornton has with it. Mr. Thornton went so far recently, in a communication to Dr. Bigelow, which that gentleman published, as to say that his (Mr. Thornton's) bad results in hysterectomy were due to the fact that in this operation the Listerian details could not be effectually applied. But the facts of the practices of Mr. Thornton and Dr. Bantock, the two surgeons to the Samaritan Hospital, settle the question when they are contrasted. Mr. Thornton uses the Listerian details for hysterectomy as well as he can, and in twelve cases he has had five deaths, while Dr. Bantock does not use the Listerian details at all, and in twenty-two cases he has had only two deaths. The explanation of the difference will be evident to every one who has seen both of these gentlemen operate. To see Dr. Bantock do a hysterectomy is a lesson in surgery, and one from which I learnt a great deal.

To see my own work, I have been honored with the visits of a large number of surgeons from this continent, some of whom I see here now. I believe they one and all came with the belief that they would find I had some secret antiseptic agent, the use of which was the explanation of my success. If I have such an agent, it must be of universal existence in nature, for I have made some of my visitors take water from the tap and put it into the basins for the sponges and over the instruments and into the abdomen. I have made them drink it, and have offered it to them for analysis, and so far, I have not been detected in any exercise of magic. My visitors always ask to what I attribute my success, and I answer that I cannot tell. They frequently suggest that it is climate, and my answer is that our climate is the most variable and uncertain, the worst in the world. It is not fresh air, for the great majority of my operations, and always the worst, are done right in the middle of a large manufacturing town.

If I may formulate my own answers, they would be briefly to this effect. I have given up my life to this work and I engage in no other kind of practice; therefore, I have a constant weekly experience of five or six of these operations, sometimes as many as eight or ten. I pay the most minute attention to every detail, and maintain an absolute rule of iron over my nurses and my patients. I will not, if I can avoid it, operate in a private house, for there I have no control over either nurse or patient, still less over foolish friends. I can best illustrate the extent to which I carry discipline by telling an incident which occurred recently, of a kind of which I have had a few, but not many experiences. For my private hospital I have a rule that when a patient is admitted she must go to bed immediately. A lady with an ovarian tumor arrived after a journey of some hundreds of miles, and was asked by the nurse told off for her, to go to bed. She said she would not do so till she had seen me. The nurse assured her that I would not come near her till she was in bed. The patient remained obstinate, and I sent a message to her that she must either go to bed or go home again, and she elected to do the latter, with much satisfaction to myself. She doubtless thought, and you may think, the rule in question is an absurd one, but the absurdity is only on the surface. It is a test of the patient's obedience and confidence in me, and I know very well that with a patient who begins by disputing my orders and doubting the wisdom of my directions I never could get on, and, therefore, it is better for both that we should have an early parting. My nurses I always train myself; in fact, I will not have one who has had previous experience, for I know very well that such a woman will inevitably, to save herself trouble, do something in a way she has seen done elsewhere, and probably for some purpose altogether foreign to my intention, and will therefore become to me a source of danger and annoyance.

Finally, I give great personal attention to cleanliness in every detail of my work. I trust no nurses or servants without overlooking; and I am constantly and at unexpected times turning up carpets, taking down shelves, and routing out cupboards. In this way, and by a process of weeding, I have obtained a large staff of good servants, and have founded a large establishment in which every available precaution is secured. I can give no other reasons than these for my success, and probably they will commend themselves to you.

There are, however, some causes intrinsic to the work itself, from which the success has sprung to a large extent, of which a few words may here be said with advantage. The first, of course, is the discontinuance of the clamp, of which I have said a great deal elsewhere. Whatever Sir Spencer Wells may say to the contrary, neither with nor without Listerism would anybody go back to the clamp. But the curious thing is that there are recent experiences in hysterectomy which would make it appear that it is not so much the clamp which has been to blame as Sir Spencer Wells's method of using it. Hysterectomy must always be a more serious operation than ovariotomy. Yet Dr. Bantock is now obtaining better results in removing the uterus with a clamp than Sir Spencer Wells ever got in removing simple ovarian tumors; and we must bear in mind that Sir Spencer always insisted that he used the clamp for his simplest cases—cases with long and easy pedicles.

Puzzling over the mysterious and startling contrast, I went to see Dr. Bantock operate, and amongst other things I found that he had given up using perchloride of iron for the purpose of tanning the stump. I asked him why he had done so, and he told me he was quite sure the use of the perchloride of iron had added greatly to the mortality of the clamp, because with a thick pedicle secured by the clamp it is impossible to close accurately the abdominal wound and prevent draining into the cavity. I did not at once accept Dr. Bantock's explanation, but I determined to use the perchloride of iron no more. Like everybody else, I was prejudiced in favor of the statement made by Sir Spencer Wells—that a putrefying stump would poison the wound, and therefore I could not make up my mind to allow it to remain without some kind of interference. Years ago, in blaming the clamp for our high mortality, I had pointed out the likelihood of this incomplete closure as being one of the causes, if not the chief cause of death. But I certainly did not suspect the perchloride of iron as being the fatal agent. A few days after my interview with Dr. Bantock, I had to perform a hysterectomy, and I dressed the stump with crystals of thymol. The patient died of peritonitis on the fourth day, and that the thymol had trickled into her peritoneum and had poisoned her we had proof enough. Since then, I have done hysterectomy twice without dressing the stump at all, and the patients are at present perfectly well. It will be curious, indeed, and no less instructive, if we find that Dr. Bantock is right, and that the use of perchloride of iron—the only contribution Sir Spencer Wells has ever made to abdominal surgery—should turn out to be the cause of his tremendous mortality. In any case, it is a remarkable example of how absurdly we are all governed by *à priori* statements—statements absolutely void of any arguments in support of them, but having been made by some one with an authoritative name and position, are accepted without doubt. If Dr. Bantock's brilliant results are obtained by others in the same way, then we have been going on destroying women with perchloride of iron merely because Sir Spencer Wells said we should use it.

As the whole aspect of abdominal surgery is at the present moment controversial, as the progress and practice of this part of our art form the chief objects of my life, you need not be surprised if I have made this address somewhat of a polemic. The greatness of the opportunity, the fact that an address given to you will be read where mere utterances of mine would be passed by, obliged me to take advantage of the opportunity you have given me to carry on the discussion. The course of this particular line of work has, as you know, taken a sudden bound of activity within the last few years, and the reason is a very simple one. The immense success in the removal of ovarian tumors such as threatened to destroy life with absolute certainty which followed the efforts of Mr. Baker Brown and Dr. Keith, led some of us—myself especially—to venture into regions where life was not necessarily, or, at least, not apparently threatened, but where suffering was persistent and incurable, and where the sufferers had been proved by protracted trial to be outside the powers of ordinary remedial measures. In a recent paper by Sir Spencer Wells, published in the *Medical Times and Gazette*, the argument is completely dislocated, and put in an altogether 'υστερον προτερον fashion, and therefore I must here give a little attention to the views of that writer. He tells us that ovariotomy had at one time a mortality of seventy or eighty per cent., but I know not whence he gets his information. Doubtless it would be possible to find occasional examples of surgeons with limited experience having such a heavy death-rate, but such an isolated case would not yield a fair statement of the facts. I read a few months ago in an American medical journal that in Italy there had been one hundred cases operated upon, with sixty-three deaths; and the newspaper recorded the fact that "thirty-four surgeons were engaged in the sanguinary work." But when the work of men who can be called ovariotomists is examined, no such results are seen. Charles Clay was the first man who did an ovariotomy in England,

and his maximum of mortality in his first series of cases was forty per cent., but it speedily fell to twenty-five per cent., and this is very much what has been recorded by Sir Spencer Wells of his own practice.

In the paper of which I am speaking, Sir Spencer goes on to say that "afterwards when the strictest hygienic precautions were supplemented by antiseptics and improvements in operative details were generally adopted, success became so great that ovariotomy not only took its stand as by far the most successful of any capital operation in surgery, but the risk attending it in a favorable case could truly be calculated as little, if at all, greater than that attending any case of natural childbirth, and, as a necessary consequence, early operations could be advised with less hesitation." The statements in this sentence are wrong from beginning to end. In the first place, the mortality of ovariotomy in the hands of Keith and myself still remains at or about three per cent., and we have shown the least mortality yet available. The mortality of natural labor, on the other hand, is certainly not .25 per cent. The statement that diminished mortality has lead to early operations should be exactly reversed, for it is the early removal of tumors and the discontinuance of tapping which have largely contributed to our present splendid results. Sir Spencer Wells's teaching inculcated the practice of tapping and its repetition until the patient was within measurable distance of the grave, but his successors have reversed all this with infinite advantage to their patients, and we now look upon tapping as a sort of surgical crime. This material alteration in practice led us step by step in the direction I have previously indicated, and we began to discuss the greater advantage to which I have just alluded. Every specialist is familiar with a large class of miserable women who wander about from hospital to hospital or from consulting-room to consulting-room, seeking relief from their ailments unavailingly.

Let me take the first class to which Sir Spencer Wells alludes in his recent paper—cases of uterine myoma. There can be no doubt that there are hundreds of uterine tumors that give no trouble at all, but these are not the cases that come to us. If a woman has no pelvic trouble she does not present herself to the gynecologist, and if she has a uterine tumor which gives rise to no symptoms, that tumor of course remains undiscovered; but when she suffers from distress occasioned by pressure on viscera from severe hemorrhage or increasing size, she comes to us and asks for advice. Suppose we find her to be suffering from a uterine myoma, what are we to do? The answer to this question is like the answer to every other of a similar kind: each patient must be advised according to the circumstances of her case. If the tumor is small and the woman comparatively near her climacteric, and the hemorrhage such as can be moderated by a rest in bed and the use of ergot, then she should be advised to let the tumor alone. But if the woman be not near her climacteric, and the hemorrhage does not yield to treatment—especially if after a fair trial of treatment the tumor is found to be actively going on—then surgical treatment is demanded.

Of course, every practitioner of medicine and surgery does and always must carry on his work in his own way, and there can be no doubt that within certain limits the measure of his success stamps the rightness or the wrongness of his methods. James Syme used to teach us that there were three methods to conduct our professional business, but that there was only one way to real success. He said there were three interests involved. First in order, that of the patient; second, that of the professional colleague; and, third, that of the practitioner himself. Syme insisted that the several interests should be rigidly kept in the order in which he placed them, or things would be sure to go wrong. I have never heard sounder advice, and have never lost sight of it, and, so far as within me lay, I have striven to follow it. In the proposals of a new proceeding, two dangers clearly occur: the first, that of the enthusiastic upholder of the novelty, who may be disposed to run too fast in the new line; the second is that of the obstructive, who, merely a believer in the times that are past, can see no possibility of their improvement. The remedy for the first danger is a wholesome scepticism leading into just and careful criticism; the remedy for the second is more difficult, for it involves a patient endurance of much misrepresentation and a protracted combat upon the points of criticism which have no weight in themselves, and have an importance gained only by persistent reiteration. In the line of practice of which I am about to speak, the point most persistently urged against our new line of practice is that unnecessary operations are performed. Now this is an argument which it is extremely difficult to argue upon, because those who speak on the two sides of the question start from altogether different standpoints. Those of a past generation, like Sir Spencer Wells, apparently regard it as justifiable to perform operations in this department of abdominal surgery only when life is pronouncedly in danger; whereas, on the contrary, we of the younger school believe we are justified in extending our practice for the relief of suffering, and we regard this as a higher function than that of the mere saving of life. To end the discussion of this point I would point out that our critics endeavor to apply an arbitrary rule for the repression of abdominal surgery which has never yet been applied in any other department of the art. Let me ask, if we find a man suffering slightly with the early symptoms of a small calculus, do we not at once proceed to relieve him by removing it from his bladder? In fact, in the domain of what is called general surgery, has it not become an established practice to perform operations which are accompanied by very considerable risk of life merely for the rectification of deformities, such as bow-leg and knock-knee, which have not the remotest risk of life attached to them and which involve no kind of suffering? The ultimate court of appeal therefore comes to be the patient's own decision, and I do not find that patients prefer to go on suffering pain and the disabling effects of profuse loss of blood rather than submit to a surgical operation, the details and effects and ascertained risks of which are completely and candidly placed before them.

In the treatment of uterine myoma two alternatives occur, and these are both the subjects of very hot discussion on my own side of the Atlantic; they are removal of the uterine appendages and removal of the uterine tumor itself by the so-called supravaginal hysterectomy.

No one in Europe, at least only one authority so far as I know of any importance, doubts that removal of the uterine appendages arrests menstruation completely in the great majority of instances, arrests the growth of uterine myoma generally, causes it to shrivel up, and in many instances actually to disappear. Mr. Knowsley Thornton, Dr. Savage, Professor Hegar, myself, and others have reported numerous cases in detail. I have published a long series in THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES for January, 1882, but Sir Spencer Wells dismisses us all in the brief sentence, "Vague, unsupported assertions have little influence upon the opinion of a thoughtful or a sceptical profession." Sir Spencer Wells must pass his retirement in some other way than in perusing the modern literature of his specialty and therefore his criticism need hardly engage our attention seriously.

The great majority of cases of uterine myoma which come to us for surgical treatment, can be quite satisfactorily dealt with by removal of the appendages, and it is an operation having a small and a steadily diminishing mortality. The arguments used against it are first that of its mortality, but this mortality is the inevitable death-rate of early work, and it is, therefore, not a permanent objection. It was an objection urged twenty-five years ago against ovariotomy, but against that operation it no longer holds good. The second objection is that myoma itself is not a fatal disease, but this is not an argument in harmony with my own experience. Even if it were a just one, however, it is admirably met by a plea entered at Ryde, in the discussion of my paper on the subject, to the effect that it is to the rights and relief of the majority that we must have regard, and that the function of our profession does not end with the saving of life, but it is chiefly that of relieving suffering.

Two other objections have been urged generally against the removal of uterine appendages that it sterilizes the patient and destroys their sexual appetites. Of course, a woman is completely sterilized by a uterine myoma ninety-nine times out of one hundred, so that the process of complete destruction of fertility is a matter of little moment. The other objection has been shown to be perfectly groundless, and even if it were not so, it could hardly be urged on the ground of morality that a woman should go on suffering because she ought not to suffer any diminution of that animal propensity which it is the chief object of the higher life of all religious culture to subject, and the subjection of which forms for all creatures the greatest difficulty of existence.

There are cases of myoma demanding surgical treatment upon which removal of the uterine appendages seems to exercise no satisfactory influence. Mr. Knowsley Thornton has made a very valuable suggestion, one which certainly deserves very careful consideration, that all cases of myoma requiring interference should first be subjected to removal of the uterine appendages and then to subsequent operation if it should be found necessary. The only objection to this that I can offer, at present, is an incomplete one. I have pretty well satisfied myself that there is one form of myoma on which removal of the uterine appendages exercises no control, a variety which I have named the soft œdematous myoma. But it is not easy to recognize this form of myoma until it has been removed. Again there are a few cases, very few I have found them to be, in which the appendages cannot be removed, and we must proceed to hysterectomy. Finally, the removal of uterine tumors has had such brilliant results in Bantock's hands, that I am in hope that a new era for hysterectomy has been opened out.

Another class of cases wandering about seeking relief, are those upon which I have operated in large numbers, and have found chronic and incurable disease of the appendages in the form of chronic inflammation of the ovary, chronic inflammation and occlusion of the tubes, these latter being occluded and distended by serum, pus, or blood. When I first published my work on this subject, there was, of course, a large amount of incredulity expressed about it, and this incredulity was not much lessened by the exhibition of a large number of specimens at various Societies, and their permanent exhibition in the museums of the Colleges of Surgeons. Many, particularly amongst my metropolitan brethren, loudly asserted that there were no such diseases, and Sir Spencer Wells stated, at the International Medical Congress in London, that if such diseases did occur, they must all go to Birmingham. But Dr. Kingston Fowler has shown not only that they exist in London, but that they are far more fatal than I had any idea of, and that they have been and are overlooked and misunderstood in the metropolis just as they were overlooked and misunderstood in my own practice previous to 1878. Concerning this incredulity, please distinctly understand that I do not blame anyone for it; it is a necessary part of all human progress. I do not even blame my metropolitan brethren, as they seem to think I do, for not discovering these cases and properly treating them. That is the fault of the mechanical school of gynecology, established by Simpson, and which exercises a far too great influence over this department of our art. During the last twenty years, displacements have had a great run, just as before that time everything was put down to ulceration, and no man considered himself properly armed for the treatment of disease unless he carried a speculum and a caustic stick about with him in his gig. The mechanical school revels in the sound and the pessary, both useful enough in their proper places, but when misused are capable of endless mischief, for many of the so-called displacements are now known to be constituted by chronically inflamed and adherent tubes and ovaries, capable of relief only by their removal.

You will ask me at starting, to tell you how these diseases may be recognized, and I have to answer that their diagnosis cannot now, and probably never may be a matter of certainty. They begin generally in some acute attack of pelvic inflammation, from which the patient dates all her troubles, and when you get such a distinct history you ought at once to be on your guard. This illness may have arisen, for instance, in a clearly defined and confessed attack of gonorrhœa, or it may be an attack of pelvic perimetritis occurring after a miscarriage or a labor, or it may have arisen in one of the exanthematic fevers or a simple cold. In some of the cases, however, you get no clear starting-point in the history, and then the diagnosis is generally more difficult. The symptoms are usually precise enough, yet unfortunately none of them is peculiar to the condition of which we are speaking. Pain is, of course, a leading feature, as indeed it is rarely without pain as a chief incentive that patients consult us at all. This pain is complained of as being constantly present, greatly aggravated by walking and becoming intense for some hours or days before the period and lasting throughout its continuance. Menstruation is usually too frequent and too profuse. In the great majority of the cases the uterus is somewhat fixed, and a tender mass can be felt at one or other side of it, perhaps on both sides, and behind it. When the tubes and ovaries are down behind the uterus and adherent there, and this is by far the most common condition, the diagnosis to a beginner is extremely difficult. Nothing looks more certain and easy than the diagnosis of subinvolution and retroflexion, and without further consideration a pessary is introduced, with no other result than that of aggravating the patient's sufferings; in fact, I may say that at this point her troubles will begin to be serious, and she will wander about collecting various kinds of instruments from various practitioners, until she ends either a helpless or hopeless invalid, or dies from an attack of acute peritonitis.

In some of my most marked and most successful cases, there have been no physical signs at all, and I have felt myself reluctantly justified in interfering only by the manifest reality of the patient's sufferings.

Here let me just say a word about the much discussed question of subjective symptoms. Everybody has heard of the celebrated story told of Liston, that a hysterical girl persuaded him to remove a healthy limb for supposed disease of the knee-joint; but is there any other story of the kind known? If there is, I have not come across it. We certainly do meet with women who will tell incredible stories about their sufferings, but the stories are so inconsequent and contradictory that there is no difficulty in discounting them. Besides, they have no support from the presence of corresponding physical signs. A woman whose sufferings are real has a sequent narrative and will submit to treatment, while the woman who is a humbug flies off at a tangent the moment a suggestion is made that she should submit to an operation in which she risks her life. I have never yet known a woman submit to an abdominal section in whom I did not find abundant justification for its performance, even in cases in which I had been extremely doubtful about its real necessity before I undertook it. I have known many patients to whom I have made the proposal as a test of their reality, and who, much to my satisfaction, have speedily taken themselves off to some other practitioner.

As to the details of the operations in these cases, I have no time here to speak; indeed, I could deal with them satisfactorily only in a series of lectures. Suffice it to say, that the operations are very difficult, for the structures are always extremely adherent, and the operator has nothing to guide him save the erudition of his touch. Concerning the cases of occluded and distended tubes, some of my critics have suggested, without any experience, that something short of abdominal section might suffice for their successful treatment, such as tapping the tubes from the vagina; but a trial of this proceeding long ago satisfied me of its impracticability and its uselessness, and my growing experience constantly confirms me in the conclusion that we have no alternative.

I am often asked concerning the subsequent history of these cases, and I am able to say from the published details, that the great majority of them are relieved at once and completely by the operation. In some of them there remains a tenderness of the stumps, lasting for some months. In four very bad cases fecal fistulæ had formed, and in two the sinuses have healed and the patients are perfectly well. In the third case the fistula opens still at occasional intervals, and in the fourth case, by far the worst I have ever had, the patient being literally at death's door when the operation was performed, the fistula still remains open, some twelve months after the operation, and even here her health has so greatly improved that I am hopeful of its permanent closure in time.

I have occupied your time already at too great length, and yet have left myself no time whatever to speak of a great variety of topics within the limits of the subject of my address of which I fain would have spoken—subjects entirely novel, and full of the deepest interest alike to the practical surgeon and to him who takes but an interest of a literary kind in the progress of our art. In fact, it is a matter of regret to me that I cannot address such an audience as this in a series of lectures rather than in an address which must necessarily be brief. It is one of the great defects of a position such as I hold—a defect inherent in a special line of practice—that it practically shuts out its follower from any chance of being a teacher. Besides, I feel strongly this as acting to my own prejudice, and I am certain it is a misfortune that those who, like myself, are very largely engaged in work strictly limited to a department can never communicate as successfully the results of their experience as can those who are engaged in teaching. I regret, therefore, that I must pass over without mention the important field of new work which has been opened up within the last few years in the surgical treatment of the liver, spleen, kidney, and intestines. I cannot even stop to speak of many other, less striking, but no less important, subjects, such as the treatment of pelvic abscesses by abdominal section and drainage, though all these are of less importance, in so far that they excite but little hostility; and what I have to say to you further I purpose to limit to a brief discussion of a proposal, made by Dr. Robert Battey, for the production artificially of the menopause for the purpose of indirectly benefiting patients suffering from conditions more or less neurotic, the symptoms of which are apparently influenced by the recurrence of menstruation.

It must be perfectly clear to the most casual observer that this is a field of an extremely ill-defined character, one which at first sight offers but very intangible prospects of success, and in which the indications even of success must be very vague and indefinite. There can be no doubt that a large number of women suffer in such a way as to make it perfectly clear that if they were relieved from recurrent menstruation they would be improved; but there can be no doubt that the application of this idea—in itself a brilliant one—requires the utmost care. I have no sympathy with stupid obstructionists who, because they scent danger in the air, would absolutely prohibit its application; but I have sufficient regard for the expression of every kind of professional opinion to recognize the necessity for the full exercise of caution.

When the proposal was first made, I recognized this so fully that I selected for whatever experiments I should make in this direction, a disease concerning the reality of which there could be no doubt whatever—I mean epilepsy. It is a perfectly easy thing to recognize by two facts alone any case of genuine epilepsy from mere hysterical imitation. It was, I think, Dr. John Hughes Bennett who clearly established the facts that none but the true epileptics ever seriously hurt themselves during the attacks, and that after the fits are over the epileptic is always somnolent. It is certainly the case that in a large number of cases of epilepsy in women the incidence of the disease is concurrent with menstruation. It is also true that every epileptic woman whose case I have investigated is worse during the menstrual week than at any other time. In some cases, the epilepsy is absolutely limited to those days of the month during which the menstrual flow is in existence. It was, therefore, a perfectly easy thing to select a number of cases in which the experiment of Battey's operation seemed capable of justification.[1] For the purpose of trying the experiment, I selected six cases, and to these I have absolutely limited its application, though from the number of patients who have been sent to me for the specific purpose of having the operation performed, I suppose I might have been able, by this time, to have placed several scores of attempts on record. The reason of my careful restriction has been that I do not care to prejudice the results of my other work by complicating it with what seemed to me a doubtful kind of proceeding; but all my care has been to some extent fruitless, for I have been persistently charged by a certain class of writers with having performed a large number of useless and unnecessary operations in removing normal ovaries in women suffering from nervous disorders. Indeed, so late as July 5th last, Sir Spencer Wells wrote the following sentences, which, though they may have been intended for some one else, I cannot help but suspect were levelled at me. They run as follows: "Just now something more than a word of caution against rash, dangerous, and unnecessary operations is called for. We are startled by the reports of the removal of normal ovaries of young women suffering from nervous disorders, which may be exaggerated or imaginary; and it is to be feared that our professional honor is at stake, and that abdominal surgery, in its latest developments, is open to the denunciation hurled against the early ovariotomists; and that, with more reason than in 1850, Lawrence's question must be repeated, whether such operations can be encouraged and continued without danger to the character of the profession; and West's assertion that the fundamental principle of medical morality is outraged, cannot now be satisfactorily refuted."

Though I am fairly familiar with the literature of abdominal surgery during the last ten years, I am absolutely ignorant of anything which can possibly justify such ridiculous exaggeration. I have publicly challenged Sir Spencer Wells to indicate the proceedings to which he alludes, and to produce the evidence upon which he bases his charges; but up to the moment of my leaving England he had not taken up the gauntlet. It is a somewhat remarkable fact that in another journal, in the same month, the same writer actually pleaded in favor of the removal of tubercular lungs; that such an operation would be justifiable if it saved one patient in twenty of those operated upon, and it seems to me absolutely impossible to reconcile such a recommendation with the denunciation I have just read.

So far as my own work in Battey's operation is concerned, in not a single one of the six patients operated upon were the uterine appendages normal. In two of them, typical examples of cirrhosis, the pathological anatomy was carefully investigated by independent observers, one of whom was the well-known and accomplished pathologist, Mr. Alban Doran, by whom the appearances were fully described and figured in the *British Medical Journal* for Nov. 8, 1879. The results of these operations, in the first place, were that all the patients made easy and uninterrupted recoveries; the operations were performed after the most careful consultation, and with the full cognizance on the part of the patients and their friends of the results which were certain, and the entirely speculative nature of those it was hoped would be obtained. As I have already published the cases in detail, with the exception of the last, which was performed only a few weeks ago, I need not here repeat them save in general terms, and that is to the effect that in two cases the results are such as to justify completely the proceedings. In both of these the disease before the operation was so intense that it was threatening life, but now it is almost entirely subdued, and the health of the patients has been enormously improved. In one case the disease was entirely arrested for a year and a half, and though it is now returning, the patient has been transformed from a wretchedly feeble, anæmic, and broken-down girl into a healthy and robust woman, although affected by epilepsy almost as badly as before. In two others the disease has been greatly modified, and the health of the patients has been immensely benefited.

From this brief record, it is quite a matter open for discussion as to whether the continuance of the proceeding can be recommended, and I am bound to say that I have not myself a very strong opinion in the affirmative: but I think if I had a daughter with feeble health, the result of pronounced menstrual epilepsy, I think I would advise her to have the operation performed. From what I have seen of it myself, I think there can hardly be any risk about it, and if performed with the precautions I have indicated, I do not think it can be brought under the sweeping category of Sir Spencer Wells, as being either rash, dangerous, or unnecessary.

There is another argument, and I think one that may be said to have some moral force, in that, as it will assist in the prevention of the distinctly pronounced hereditary tendency of the disease, we should at least hesitate before we entirely condemn it. Certainly a great deal more can be said for it than for the proposal of pneumonotomy for phthisis, on the assumption that the removal of a lung would only save one patient out of twenty. Removal of the uterine appendages for epilepsy would probably not kill more than one per cent.; and I am certain it would materially relieve fifty per cent.; it would improve the health of the great majority of patients, and I do not think it would make any of them worse than they were before the operation. I am hopeful, therefore, that the verdict of professional opinion will not be adverse to a fair and reasonable trial of Dr. Battey's proposal, and I trust that the freedom from the prejudice and shackles of tradition which we find on this side of the Atlantic will secure for it a fair field.

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[1] Dr. Thallon, of New York, has lately published an article in Seguin's *Archives*, which is an admirable illustration of the Teutonic process of elaborating a camel from the inner consciousness of the writer. Dr. Thallon seems never to have read what either Dr. Battey or I have written on this subject, and he has created a new term, against which I desire to enter a vigorous protest. He speaks of the "Battey-Tait" operation. There is no such thing. Dr. Battey's proposal is as different in its purpose, in its details, and in its application from my own as lithotomy and amputation. I need not enter into the further details of Dr. Thallon's criticism and conclusions, as they are reached solely by the utter absence of experience of the matters on which he has chosen to write.

And now, in conclusion, let me thank you most sincerely; and not only you, but many other professional bodies, and large numbers of professional friends, for the kindly, I may say overwhelming reception I have met with at your hands. For many months before I left home there was hardly a mail arrived which did not bring me invitations of public or private hospitality, and these brought forth feelings of regret that my stay on this continent could not be prolonged for as many months as it will have to be limited to days. One thing I recognize in this above all others, and it is that you are treating me not on my own merits, but as a representative of a large body of men in my own country, to whom you have owed much in the past, and with whom you are in the present united in a common bond of brotherhood and community of sacred purpose. For the future, I predict that the unity and the union will be more and more complete. If it should be in the mind of any that in what I have said I have been lacking in detail, let me say again that the theme you gave me was far too wide to be satisfactorily and completely dealt with in one address. If, on the other hand, I should be adversely criticised as having spoken strongly upon matters in dispute, let my apology be that I have worked hard and long and earnestly in the field I have undertaken, and that no man can feel strongly without infusing into his words some tincture of the thoughts that govern his actions.

ORIGINAL ARTICLES.

[Official.]

MEDICAL REPORT ON THE CONDITION OF THE SURVIVORS OF THE GREELY PARTY, WHEN RESCUED BY THE RELIEF SQUADRON.[1]

By EDWARD H. GREEN, M.D.,
SURGEON OF THE U. S. S. THETIS, OF THE GREELY RELIEF SQUADRON.

As a preliminary to the medical history of the cases of the survivors of the Lady Franklin Bay Expedition, it is well to give a brief *résumé* of their mode of life at Camp Clay, their quarters, rations, etc., so as better to appreciate the condition in which they were found.

On September 29, 1883, Lieutenant Greely landed with his party at Baird Inlet after thirty days' exposure drifting on an ice-floe; the record left at that time stated the *party was all well.* Having sent an advance detachment ahead, which found and reported that a *cache* of provisions existed at Cape Sabine (fifteen miles further to the northward than he was at this time), it was deemed expedient to move the whole command up to that neighborhood rather than send for the provisions, and winter at Baird Inlet. Finally, on October 25th, they moved around to a point between Cape Sabine and Cocked Hat Island (lat. 78° 45′ N., long. 74° 15′ W.); the site of their winter-quarters was sheltered between high ridges of mountains, which screened them in a measure from the northerly and southerly winds. A glacier was situated at the foot of the mountains on either side of them about a mile distant. They constructed a house of loose rock and moss, the walls being three feet in thickness. The roofing consisted of old canvas stretched over a boat; the dimensions of the house were 25 feet long by 17 feet wide by 4 feet high, making a cubic air-space of 1700 feet, in this the twenty-five members of the party lived all winter, having a cubic air allowance of about seventy feet for each man. The whole party could barely squeeze in and lie at length, two or three being obliged to occupy the same sleeping-bag; the effect of this diminished air-space will be seen later on. Their hut was but 100 yards removed from the ice-foot of the sound, and 200 yards to the south of them was an artificial lake, from which they drew their water supply by melting up ice; as the sea water strained into this lake, they were drinking brackish water all the while.

On November 1, 1883, Lieut. Greely took a careful account of his stock of provisions, and found there was but a whole ration for each man (estimated as an army ration, about forty-six ounces of solid food per diem) for forty days. Doctor Pavy and he advised together, and it was with some reluctance that they determined to divide up the rations so as to make them last until March 1, putting aside from time to time, so that at the end they would still have ten days' supplies left with which to attempt the trip to Littleton Island, if the Straits were frozen over. Doctor Pavy did not think the party could exist on the ration during the winter, but the common voice was to make it go as far as it would; so each man was given the following daily allowance:

Meat and blubber, . . .	4.33	ozs.
Bread and dog biscuit, . .	6.5	"
Canned vegetables and rice, .	1.4	"
Butter and lard, ...	0.75	"
Soup and beef extract, . .	0.90	"
Berries, pickles, raisins, and milk,	1.	"

Making the daily allowance for the four months 14.88 ozs. During the winter the following amount of game was secured, which added to their stores: 2 seals, yielding about 120 lbs. of meat, one bear, yielding 300 lbs. of meat, 8 foxes (4 lbs. each), and 60 dovekies (uria brunnichii), a small bird, weighing about a pound.

March 1 found the party intact, with the exception of Sergt. Cross, who died in January with well-marked scorbutic symptoms—the only case of pronounced scurvy that developed—and Hans, their Esquimaux hunter, who was lost in his boat while hunting seals, early in February. The Straits having been kept open during the winter by a succession of violent gales, the attempt to cross to Littleton Island had to be abandoned, and their ration was still further reduced to the following allowance: meat 6.8 ozs., bread and dog biscuit 3.2 ozs. The rest of the stores having been exhausted, the remaining supplies were divided up so as to last until May 12th. The sun had returned by this time, after an absence of one hundred and twenty-eight days, and those employed as hunters caught the shrimp (crangonidæ), a small crustacea, one-eighth to one-fourth of an inch long, consisting of about four-fifths shell and one-fifth meat. From 1 to 3 ozs. of these a day, according to the catch, were allowed in addition to the ration.

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[1] This paper was specially prepared for The Medical News, to which it was forwarded by Surgeon Green, through the Bureau of Medicine and Surgery of the Navy Department.

After the last reduction the party began rapidly to weaken and die. About the 24th of March the whole party was overcome with asphyxia, and nearly lost their lives, owing to the atmosphere being surcharged with carbonic acid. They had lit their alcohol stove in the hut to cook a meal, without previously having removed the rags from the vent-hole in the roof; the remaining oxygen of the air was soon consumed by the stove, and the whole party were seized with faintness, vertigo, and dyspnœa. It was with the greatest difficulty they struggled from their sleeping-bags, and stumbled and were helped into the open air, many fainting away and dropping unconscious after reaching the opening. Being poorly clad for a temperature such as prevailed outside at the time (—46° F.), many were frostbitten. The after-effects of this mishap remained for a long time, and weakened many of them.

After May 12th everything like a regular ration was exhausted, and they struggled on as best they could, catching the shrimps (which they boiled); gathering reindeer moss, which, when boiled, yields a mucilage similar to Iceland moss, and boiling up the sealskin linings of their sleeping bags, from which a gelatinous mass was extracted. It was not till they had exhausted the supply of moss around the camp that they gathered the black lichen (*crêpe de la roche*) growing on the rocks, and boiled it. Dr. Pavy urged strongly against its use, as he had the authority of Kane and Hayes that, when eaten, it would produce a diarrhœa which, in their weakened condition, would be fatal. They had no fuel for artificial warmth, and barely sufficient to allow for melting the ice for procuring drinking water and to cook a meal every other day; so that the living temperature of the hut for the winter was from 5° to 10° F.

They recognized the fact that the nearer they could approach a state of hibernating, the better were their chances of getting through. Only those employed as cooks and hunters exerted themselves much, and they were given a double ration. The rest occupied their sleeping-bags, and slept sixteen to eighteen hours out of the twenty-four. In answer to complaints of hunger, Dr. Pavy's motto was, "Qui dort, dine," which was philosophical without being filling.

There seemed to be but little acute suffering from the lack of food. It was only after the introduction of food into the stomach that the craving became great. For days they went without food without actually suffering. The deaths seemed to take place finally from heart trouble (hydrops pericardii). The feet and face became œdematous; for a day or so they would complain of pains over the heart; have a spasm of pain over the præcordia; a slight general convulsion, and all would be over. Their chief suffering during the winter was from constipation. Many went eight to ten days without a stool, and one as long as sixteen days; the feces became so hardened and impacted in the rectum that at each operation they were obliged to dig the feces out with their fingers, the abdominal muscles being too weak to extrude the mass. Nearly every one would faint after having a stool, from sheer exhaustion.

When it is considered that for nine months they were on the ration as detailed, had nothing but brackish water to drink, no artificial warmth, living in a temperature of 5° to 10° for the winter, with a cubic air-space of 70 feet per man, the condition in which the survivors were found will not be wondered at. There were but seven out of the twenty-five found alive. These were A. W. Greely, First Lieutenant, U. S. A.; Henry Biederlich, Hospital Steward; D. Brainard, Sergeant, U. S. A.; Morris Connell, Private, U. S. A.; Joseph Ellison, Sergeant, U. S. A.; Julius Fredericks, Sergeant, U. S. A.; Francis Long, Sergeant, U. S. A. The first four mentioned were taken on board the flagship "Thetis" and placed under my care, and with them this paper will principally be concerned.

On landing at the camp the condition of the party was so desperate that a delay of two hours was necessary to restore them sufficiently to permit their being removed on stretchers to the boats and taken off to the ships.

Morris Connell, Private, was *in extremis;* was pulseless, unconscious, and unable to swallow; limbs cold and respiration barely noticeable; auscultating over the heart, the sounds were heard very indistinctly. By propping him up, and forcing open the jaws, a teaspoonful of brandy was slowly poured into the back of the throat. The effect of the stimulant was soon noticeable, as a faint pulse appeared at the wrist; in ten minutes he could make an effort to swallow, when more brandy was administered, followed by some warm condensed milk at intervals. The rest of the party were served with brandy, milk, and beef essence, and finally transported to the ships.

The time and space would hardly be allowed me to give more than a brief detail of the cases, and as they closely resemble each other, both in symptoms and treatment, I will confine myself to the case of Lieutenant A. W. Greely more particularly, alluding to anything peculiar in the other cases.

June 22d, 11 P. M., A. W. Greely, Lieutenant, U. S. A., æt. 40. Disease, asthenia. On admission he fainted after being carried below in the ward-room, and vomited; administered ammoniæ spts. aromat. 6 c.c. (100 minims), renewed in ten minutes; placed him in a berth, gave a teaspoonful of raw, fresh beef, minced; clothes were carefully cut off of him and heavy red flannels, previously warmed, substituted.

On examination his body emitted a sickly, offensive odor (as of stale urine); emaciated to a degree. The skin hanging from his limbs in flaps; face, hands, and scalp blackened with a thick crust of soot and dirt (having not washed or changed his clothing for ten months).

Nervous system: Excitable and irritable, at times almost irrational; eyes wild and staring; insists on talking, craving news, and demanding food; complains of no pain.

Digestive system: Tongue dry and cracked, heavy brownish-black coat; ravenously hungry, abdominal cavity hollow and lying almost in contact with the vertebral column; no movement of bowels for six days; liver dulness, on percussion, confined to right hypochondriac region.

Respiratory system: Respirations 12 per minute; auscultation and percussion reveal no abnormal condition of the lungs; vesicular murmur puerile.

Circulatory system: Pulse 52, soft and compressible; auscultation shows marked murmur (blowing) in systole over base of heart.

Integumentary system: Skin cold and clammy, sickly odor emanating from it, shrivelled and sallow; temperature 97.2° (under tongue).

Locomotor system: Great muscular waste, unable to move or stand without support; body weight, 120 pounds; weight before leaving Fort Conger in August, 1883, 168 pounds.

Urinary system: No specimen obtainable.

Treatment, from 11 P. M. till 8 A. M., alternated every half hour; teaspoonful of raw, fresh beef (minced) with teaspoonful of milk punch; enjoined strict quiet; pulse then rose to 60 per minute, soft; temp. 97°.

23d. Nervous system: Mind still active and restless, compelled to allow him some home letters to read, after which he became more composed; has not closed his eyes; talks rationally, but shows loss of memory, as he often repeats himself.

Digestive system: Had a small, highly offensive stool; felt quite faint afterwards; passed considerable wind from bowels; abdomen tympanitic; tongue still dry and coated.

Circulatory system: Pulse slightly stronger, 60 per minute; respirations 12 per minute.

Integumentary system: Same offensive odor; temp., A. M., 97.8°; P. M. 98°.

Locomotor system: Still unable to raise himself up without help; muscles very soft and flabby; some stiffness and pain in the joints.

Urinary system: Urine passed in 24 hours 1630 c.c. (55 ozs.), sp. gr. 1014, acid, highly albuminous (one-tenth tube).

Treatment: Continue raw fresh beef, at intervals of an hour, with a raw onion finely cut up, added also milk punch, one-half ounce every two hours; no medication.

24th: No sleep; mind more tranquil, but too active; great desire to talk and read; less persistent in demanding food; complains of soreness in limbs; tongue presents a moister appearance; bowels slightly distended with gas, no stool; pulse 62, not so thready; heart sounds stronger; still a pronounced anæmic murmur; blood examined microscopically shows large increase of white corpuscles; at first the field (one-tenth objective) appeared filled with the nucleated corpuscles; close examination showed the proportion to be about one to twenty red; the red corpuscles show but little disposition to cohere and run into "rouleaux," and lacked the distinctive biconcave disk shape; edges full and round (not ragged); urine passed in 24 hours 1660 c.c. (56 ozs.), highly albuminous, no casts revealed by microscope; skin clammy, dirty mottled yellow; temp., A. M., 97.6; P. M. 98°; muscles sore; slight œdema of hands and ankles.

Treatment: Sponging with tepid water, afterwards briskly rubbed with flannels and a little linimentum saponis; four ounces, of oatmeal (thoroughly boiled) allowed in morning; beef essence, Liebig's, ʒj, in hot water every four hours; continue scraped beef and onion; no medication.

25th. Marked improvement; mind more tranquil; talks quietly without excitement; slept two or three hours naturally, awoke refreshed; tongue beginning to clean; had a large, dark, semi-solid stool; odor offensive in the extreme, evidently but little biliary secretion poured into the alimentary canal; pulse 65, some strength; respiration 14, principally costal; skin losing clammy feel, its emanations still sour and offensive; temp., A. M., 98.2°; P. M., 98°; muscles sore; ankles puffed.

Treatment: Shampooing muscles with dry cloths. No change in diet. No medication.

26th. Allowed to sit up in bed and read a little; slept six hours soundly during the night, mind tranquil, has a loss of memory of words; tongue cleaning, still has heavy coat at back; bowels moved twice, stools pitchy and offensive; abdomen tympanitic, considerable borborygmus. Pulse 65; heart sounds stronger, murmur still pronounced. Urine passed in 24 hours 1800 c.c. (61 ozs.), sp. gr. 1016; albumen not decreased; no change in condition of skin. Temp., A.M., 98°; P.M., 98.8°.

Treatment: Sponging and friction. Same dietary with tr. ferri muriat., 5 c.c. (80 minims) ter in die.

27th. Still extremely weak; voice stronger; mind easier; amnesic aphasia marked; appetite still morbid, always hungry, considerable flatulence; no stool; aspect of skin somewhat improved in appearance, still dirty yellow (no petechiæ). Temp., A.M., 98.4°; P.M., 98.8°; pulse 66; respiration 14; urine albuminous (1-12 tube) 1950 c.c. (66 ozs.) in 24 hours, sp. gr. 1018; muscles beginning to fill out, and are very soft.

Treatment: Dietary increased to 8 ounces of broiled steak in morning; continued tr. ferri muriat.

28th. Gaining strength; dressed and sat up for a couple of hours, then felt exhausted and returned to bed; mind quite tranquil; slept well; appetite still morbid; bowels moved, no change in character of stool; liver still inactive. Pulse 66, fairly good tone; anæmic murmur not so marked. Temp., A.M., 98.2°; P.M., 98°; urine passed in 24 hours 1860 c.c., (63 ozs.), sp. gr. 1017, albumen present.

Treatment: Takes food at five stated intervals: 6 A.M., oatmeal, 4 ounces; broiled steak, 8 ounces.

10 A. M., Liebig's beef essence, ʒj, in a teacup of warm water. 2 P. M., one soft boiled egg with milk toast. 6 P. M., raw minced beef and onions. 10 P. M., Liebig's essence of beef. Continue tr. ferri. muriat., 6 c. c. (100 minims) ter in die.

29th.—Dressed and was assisted to walk in ward-room a few steps; muscles soft; very weak; limbs filling out; body-weight 129½ pounds (gain of 9½ pounds for the week). Pulse 68; urine 1650 c. c. (56 ozs.) in twenty-four hours, albumen less; temp., A. M., 98°; P. M., 98.4°, normal; bowels moved naturally, stools still pitchy and offensive.

Treatment: Continue the same.

30th.—Sleeps naturally and awakes refreshed; allowed to read and talk; walks around for an hour or so with support; limbs filling out; feet œdematous toward night; appetite still morbid, unable to be satisfied with his allowance; good movement of bowels; albumen disappearing from urine; heart sounds stronger; temperature normal. Continue restricted diet and iron.

July 1.—Felt quite refreshed on awaking; had slept well during the night; enjoyed morning meal and ate without asking for more. As the sun was shining brightly, was assisted on deck, and sat in the air (well bundled up) for an hour; had but little appetite for midday meal; at 4 P. M., a small, dark, offensive stool; strained considerably, and was much exhausted afterwards (nearly fainted); administered spts. frumenti ℥ss. in water at 6 P. M. Complained of severe pains in abdominal muscles and over the region of the liver (pains resembling hepatic colic); considerable febrile disturbance; pulse 98, temp., 100.2°; administered quiniæ sulph. 30 cgm. (4½ grs.) at 8 P. M.

2d.—Feels much prostrated and weak; muscular pains and soreness over abdomen and back; complexion sallow; appetite poor. Temp., 8 A. M., 98.8°; 12 M., 99°; 4 P. M., 99.2°; exhibited hydrargyri chloridi mit., 30 cgm. (4½ grs.), at 8 A. M. Repeated dose at 2 P. M.: bowels moved three times, last evacuation watery; felt weak, but free from cramps; headache disappeared; light diet of oatmeal and milk; discontinued tr. ferri muriat.

3d.—Still weak; muscular soreness over abdomen; no sharp pains; two loose evacuations from bowels; appetite returning; pulse 68; temp. normal; whiskey toddy ℥ss ter in die.

4th.—Considerable improvement; pains have disappeared from muscles; tongue cleaner; complexion better; allowed to sit up to his meals. Urine much improved, albumen ($\frac{1}{80}$ tube), sp. gr. 1022. Resumed tr. ferri muriat., also vin. Portense ℥j ter in die before meals.

5th.—Gaining strength gradually; muscles soft; knees weak; encouraged to take some exercise daily, weather permitting, in the open air; digestion good; appetite under better control; liver still torpid; regular movement of bowels; skin clearing and has lost its clamminess; sleeps well; continue same treatment. From this time forth there was gradual improvement; blood again examined microscopically—showed marked diminution of white corpuscles. On *8th*, no albumen found in urine. On *12th*, anæmic murmur very indistinct. On *17th*, arrived at St. Johns; condition sufficiently good to warrant his going ashore for exercise; muscles still weak and sore; filled out rapidly.

19th had a slight attack of intestinal indigestion, was living ashore at the Consul's, having committed an error in diet; suffered for two days.

On *25th*, allowed to eat three full meals daily, with certain articles restricted; encouraged to exercise in open air. On the trip from St. Johns to Portsmouth, N. H., (*July 26th to Aug. 1st*), ran into damp, moist weather; felt much prostrated, and muscles ached; given quiniæ sulph. 180 cgm. (27 grs.), every night during the run. On being transferred at Portsmouth, his body-weight was 169 pounds, representing a gain of 49 pounds in six weeks: 9½ pounds the first week, 15 pounds the second week, 8 pounds the third week, 7 pounds the fourth week, 5½ pounds the fifth week, 4 pounds the sixth week.

Remarks.—Vital depression, as exhibited by the temperature is not marked; digestion fairly good all the time; nervous system soon calmed; microscopic examinations of blood exhibited no marked unhealthy character of red blood-globules, but steady decrease of white corpuscles under the influence of the iron; albumen disappearing; anæmic murmur disappearing, showing that it is simply due to hydræmic condition of the blood; liver not secreting; large gain in weight, due to rapid assimilation of food, owing to great muscular waste. Uurinary excretion large, 1950 c.c. (66 oz.), in one day, due doubtless to almost total inactivity of the sudorific glands.

U. S. S. THETIS, August 3, 1884.

On relinquishing medical charge of the survivors of the Lady Franklin Bay Expedition, prior to their transfer ashore for treatment, I respectfully submit extracts from the medical journal of this ship, showing their present physical condition and treatment.

1. A. W. Greely, First Lieutenant U. S. A., æt. 40 years. *Present condition:* Able to walk some distance without getting tired; muscles beginning to harden and tone; face still has a swollen appearance, and puffed; complexion sallow. *Digestive system:* Tongue clean and moist; appetite not abnormally large; bowels move regularly; stools large and dark colored, less offensive; passes less wind from bowels; no tympanites; at times heavy feeling over right hypochondriac region. *Circulatory system:* Pulse 78–82; good tone; auscultation over the heart shows almost total disappearance of anæmic murmur. *Respiratory system:* Lungs free from trouble; has slight dyspnœa on exercising. *Integumentary system:* Skin sallow; temperature of body 98.6°. *Urinary system:* Urine passed in twenty-four hours, fifty-six ounces; pale amber; acid; 1024 sp. gr.; no albumen. *Nervous system:* Mind tranquil; memory much improved; slight amnesic aphasia; sleeps well. *Locomoton system:* Muscles soft; has weakness, particularly in the broad muscles of the back (latissimi and trapezii); complains at times of cramps in the muscles of legs. *General condition:* Liver is torpid; muscular system lacks tone; is free from organic disease. *Treatment:* Rest; moderate exercise; dietetic; port wine before meals; pil. quiniæ

sulph. grs. iij at night; pil. ferri et strychniæ citrat. grs. iss after meals.

2. Morris Connell, Private U. S. A., æt. 32 years. *Present condition:* Sallow; muscles weak. *Digestive system:* Tongue clean, furred at the back; appetite abnormally large; bowels free, large stool daily; troubled at times with gaseous dyspepsia; bowels flatulent and tympanitic; liver contracted slightly. *Circulatory system:* Pains over præcordia disappeared; heart sounds normal; pulse regular, 74, lacks strength. *Respiratory system:* Normal. *Integumentary system:* Slightly œdematous about the feet; sallow; temperature of body normal. *Urinary system:* Normal. *Nervous system:* Sleeps well; mind active and retentive; no pains in body. *Locomotor system:* Muscles getting tone gradually. *General condition:* In fair health; free from organic disease. *Treatment:* Dietetic; tr. ferri muriat. ♏xv ter in die; exercise.

3. Henry Biederlich, Hospital Steward, æt. 28 years. *Present condition:* Suffering from chronic rheumatic arthritis in middle joint of ring-finger of left hand; has also at times flashes of rheumatism in joints and muscles. *Digestive system:* In good condition; suffers at times from gaseous dyspepsia; bowels regular; appetite not morbid. *Circulatory system:* Has anæmic murmur over the base of the heart; pulse dicrotic at times, 74 per minute. *Respiratory system:* Normal. *Integumentary system:* Face puffed, ankles œdematous, skin clear, temperature normal. *Urinary system:* Normal. *Nervous system:* Mind clear; has neuralgic pains at times in muscles of chest; sleeps well. *Locomotor system:* Muscles getting stronger and harder; joints at times stiff from rheumatism; middle joint of ring-finger on left hand chronically swollen. Is in fair physical condition and free from organic disease. *Treatment:* Quinine, small doses of potass. iodid., exercise.

4. D. Brainard, Sergt. U. S. A., æt. 28 years. Is in fair physical condition, performs all functions naturally; pulse good, temperature normal, urine normal, feet slightly œdematous, muscles in fairly firm condition. Free from all organic disease. *Treatment:* Dietetic, quinine, tr. ferri muriati, port wine.

5. Julius R. Fredericks, Sergt. U. S. A. In good physical condition; all functions naturally performed; pulse good, temperature normal. Has been under treatment of P. A. Surgeon Ames, on the "Bear."

6. Francis Long, Sergt. U. S. A. In good physical condition. Under treatment of P. A. Surgeon Ames, of the "Bear."

Very respectfully,
EDWARD H. GREEN,
P. A Surgeon.

MEDICAL PROGRESS.

PERMANENT ANTISEPTIC DRESSING.—PROFESSOR ESMARCH, of Kiel, read a paper, at the Copenhagen Congress, on permanent antiseptic dressing.

The healing of all wounds *by first intention*, without suppuration, he said, is the most desirable issue. 2. This method of healing is most certainly obtained by the absolute preventions against infecting material, and by the complete rest of the wounded part. 3. Since every renewal of the dressings disturbs the wounded parts, and renews the danger of infection, a permanent dressing, one which can be left on the part until the wound is completely healed, is that which most nearly conforms to this end. 4. If the surgeon would avoid renewal of the dressing during the process of cure, the wound must be placed under such circumstances, must be so closed and dressed, that neither suppurative irritants nor foreign bodies shall remain in it, and that no blood or secretion from the wound can be retained. 5. The chief conditions for this result are: (*a*) Exact hæmostasis; (*b*) The avoidance of all spaces in the wound; (*c*) Free exit of all secretions; (*d*) The most careful antisepsis, and best antiseptics; (*e*) The use of compressible dressing-materials, which will absorb all the fluids; (*f*) Immobilization of the wounded part.

CONTRIBUTION TO THE SURGERY OF THE INTESTINE.—PROFESSOR MIKULICZ also read a contribution to the surgery of the intestine.

He has in two cases resected, with good results, an invaginated and prolapsed large intestine (in one case to the extent of twenty-eight inches, in the other twelve inches), using a typical intestinal suture (a double row of sutures, one of Lembert's suture, and a running suture for the mucous membrane). This operation is indicated in invagination and prolapse: 1. When reposition of the prolapsed intestine is impossible on account of the swelling; 2. When the prolapsed intestine is partly or entirely gangrenous.

As to the therapeutics of perforation of the intestine, in every case in which perforation of the intestine can be diagnosticated with some probability, laparotomy should be performed, the perforated portion sought out, and the opening closed by sutures, after freshening the edges of the wound. The operation is not contraindicated by existing peritonitis, if the patient is not already in a state of collapse or sepsis. Mikulicz has successfully performed laparotomy in a case of this kind when there was purulent peritonitis from extravasation of the intestinal contents. This case was most probably one of perforation of a typhoid ulcer.

CONGENITAL SARCOMA OF KIDNEY, WITH OBLIQUE MUSCULAR FIBRES.—BROSIN reports (*Archiv f. path. Anat. und Physiol.*, Bd. xcvi. Hft. 3) a case—the seventh on record—of a child three years of age, who gradually became emaciated during the last two years of life, and had a large swelling of the abdomen, which became hard in the last year. No medical examination was made during life.

At the autopsy, a large hard tumor was found involving the left kidney. Microscopical examination showed it to be of sarcomatous structure; but wherever the connective tissue of the stroma was formed of fibrilli, with few nuclei, transverse muscular fibres were found. These often formed larger groups, and crossed one another in every direction. Of the cases of this kind hitherto reported, the youngest was seven, the oldest thirty-nine months.—*Centralbl. f. klin. Med.*, Aug. 2, 1884.

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SATURDAY, SEPTEMBER 6, 1884.

THE GREELY ARCTIC EXPEDITION.

THE Arctic tragedy with its accumulated woes, by which the civilized world has been at once fascinated and horrified, offers to the medical profession some important hygienic and physiological problems. It is, therefore, satisfactory to us to be able to lay before our readers the medical history, for this throws a clear light on the physical and, secondarily, on the mental state of the human wrecks rescued on the very border of eternity. Such a record of incredible suffering and hardships is not unknown in the annals of ocean explorations; but we do not find anywhere a scientific and exact statement of observed results such as that with which we are favored by Dr. Green.

The results of this expedition differ in one important point from former ones: but a single case of scorbutus occurred. The advance in our knowledge of the purpose subserved by the various kinds of aliment, permits the construction of dietaries adapted to the various exigencies of life. Given a route of the proposed exploration, the isotheral and isochimenal temperatures, and the kind and quantity of work to be done, a diet-table can be formed which will be exactly adapted to the conditions present, so that the body will be maintained at its maximum of efficiency. That the aliment furnished to the Greely expedition served its purpose, is shown in the fact that the party was in good condition when it reached its permanent quarters. The solitary case of scurvy would not have occurred, probably, if the other circumstances had been propitious in the affected individual.

Another lesson is the very small amount of food which may suffice to keep the human machine in a state of efficiency. Compared with some other historical examples, the food supply allowed each member of the party at Cape Sabine was liberal. It was in the aggregate nearly fifteen ounces. At the siege of Paris, the daily ration was at one time reduced to ten ounces of bread and one ounce of meat, or eleven ounces in all. The ration allowed the United State soldiers in the Andersonville prison, was five ounces of bacon and twenty ounces of unbolted corn-meal, which was not equal, in point of material available for nutrition, to that given the Greely party.

In view of the small amount of aliment allowed at the outset, and subsequently greatly lessened, an attempt was made to assimilate their lives to that of hibernating animals. This, we believe, was unwise. Although the amount of food and the low temperature precluded active exercise, they would have done better to accommodate themselves, as nearly as possible, to the conditions of health in normal surroundings. A hibernating animal has a store of fat laid up for consumption during the period of repose. The accumulating carbonic acid lessens the activity of the nervous centres, and induces a comatose state during which all the functions are inactive. Such a state of things is impossible to man, and the attempt to accommodate themselves to such abnormal conditions only produced a pathological state and accelerated waste. The air-space allowed them was entirely inadequate, and the enforced lack of attention to personal cleanliness prevented excretion by the skin. Hence animal heat was not properly developed, and the food taken was not efficiently utilized, either to promote nutrition or to maintain the body temperature. Suitably placed as to their hygienic surroundings, and the functions sufficiently exercised, the amount of food allowed at Cape Sabine, at the beginning of their stay there, might have been much lessened, and yet have proved sufficient.

In the process of slow starvation two beneficent results greatly lessen the terrors of the situation. At a certain point, the desire for food ceases, until the stomach is roused from its functional torpor by the introduction of some aliment. In those cases of voluntary fasting with the details of which the public is now and then regaled, it is probable that the experimenter experiences but little the pangs of unsatisfied appetite after the first few days of torture. Such was the experience of the Greely party.

The other beneficent experience of the starving, is the pleasing delirium in which feasting on sumptuous viands is indulged—in such a mode does Nature offer compensation in this dire extremity. But the delirium may take other forms. In the struggle for existence, when only the animal instinct remains, and men living in the state of animals lose the distinctive qualities of the civilized state, it is not surprising that mere savage feelings sway them entirely, and hence the delirium, if not occupied with the pleasing illusions of feasting, may take the form of an aggressive animality.

THE CHOLERA CONFERENCE AT BERLIN.

IN the last two issues of THE NEWS we laid before our readers an extended abstract of the address of DR. KOCH at the recent conference held at Berlin for the discussion of the cholera question. The subsequent discussion was participated in by Virchow, Leyden, Hirsch, Fränkel, Schubert, Bardeleben, and others.

The important conclusions to be drawn from Koch's paper may be summarized as follows:

1. Cholera is the direct result of the lodgement and proliferation in the intestinal walls of a distinct bacterium, usually comma (,) shaped, but frequently, also, semicircular or s shaped, suggesting the apposition of two bacteria. It may also grow out into a spiral thread resembling the spirochæta of relapsing fever, whence Koch doubts whether it should be ranked as a bacillus, as a transition-form between a bacillus and spirillum, or a true spirillum.

2. The comma-bacillus is easiest found in the earlier stages of the disease, being later obscured by numerous other forms of bacteria. It is distinctive of the mildest as well as the severest cases, and has, therefore, an important diagnostic value.

3. It is capable of successful culture in broth, milk, on potato, and especially in gelatine, in which it grows peculiarly, producing a gradually extending liquefaction of the gelatine around the growing colony.

4. Thriving best at a temperature of 68° to 136° F., it is not destroyed by a temperature of 14° F.

5. It is, however, readily killed by drying, and it does not, therefore, pass into a state of latent activity or resting state, as does the bacillus of anthrax and vaccinia. The removal of the nutrient medium for 24 hours or even less, and an acid reaction, also destroy the bacillus.

6. Under ordinary circumstances the bacilli, introduced by the mouth, are destroyed in the stomach, but given a derangement of this organ due to errors of diet or other cause, and the bacillus is enabled to escape the action of the acid gastric juice and to reach the alkaline intestinal fluid, where it proliferates, sets up irritation, diarrhœa, and all the typical symptoms of the choleraic seizure.

7. Cholera can only spread by human intercourse, and cannot have an autochthonous origin, all observation going to show that the delta of the Ganges is its invariable source.

8. The harmful effect of the bacillus is probably not through its irritant action alone, because this is too limited in extent, but rather also through a poison or ptomaine which it generates, such as is produced by bacteria in putrefaction.

We have followed carefully the methods and reasoning of Koch, and have been favorably impressed by both. There is to us, too, a stamp of authority about these observations which cannot be admitted of those on tuberculosis. It cannot fail to be noted, however, that the whole subject is one of greater simplicity, and therefore easier of solution, than the tubercle question. At the same time we deem it premature to accept unqualifiedly the first and most important of his conclusions, because we believe that in a science like our own, where mathematical demonstration is impossible, we dare not, on the testimony of a single individual, however careful and accurate he may be, accept a conclusion until it is verified by others. The results of further observation must therefore be anxiously awaited.

The only observers who have as yet had the same opportunity as Koch are the French Commissioners, Roux and Strauss, who, while they admit the finding, among a large number of microörganisms, of one resembling the comma-bacillus, they do not attach much importance to it. They also call attention to the finding of a comma-shaped bacillus by Maddox, of London, in a reservoir of water, by Malassez in dysenteric stools, and by themselves in the vaginal mucus of a woman with leucorrhœa, and in the mucous uterine secretion of a woman who had commencing epithelioma of the cervix.

Koch himself admits that all efforts to produce the disease in the lower animals by inoculation of the bacillus have been unsuccessful, but argues against the conclusiveness of this fact as an objection, that cholera does not occur in any of the lower animals. It is true that pigs fed upon the choleraic material died of convulsions in from fifteen minutes to two and a half hours; but Koch says this must have been an "intoxication" rather than an infection, because another pig fed upon the intestinal contents of one of those thus killed was not affected. It will be remembered that it has, heretofore, been believed that certain lower animals are subject to cholera. Further investigations are evidently required in connection with this point.

The discussion which followed the address was limited in some directions by the fact that few present had had practical opportunities of the kind enjoyed by Koch, but was facilitated by the presentation of sixteen questions, of which we can now only dwell upon two or three of the more important. First of these is, of course, the question: "Is the infective material of cholera identical with the comma-bacillus?" To this Virchow answers "not proven," seizing at once the weakest point of Koch's position —that cholera has not been communicated through its inoculation. At the same time, he admits that this is not an absolute refutation, and says further that if any one of the numerous organisms found in the dejecta of cholera be its cause, the probabilities are decidedly in favor of the comma-bacillus. The entire history of cholera, including its distribution, would seem to demand that a living organism is responsible, and the fact that Koch found that in certain cases the dejecta and the intestinal contents of cholera patients were made up almost wholly of cultures of this bacillus, that on the soiled linen—acknowledged to be the most dangerous means of communication—the growth of the organism is most active, leave it scarcely possible to conclude otherwise than that the bacillus is the essential cause. On the whole, then, we may say that Virchow inclines to accept the proposition.

Hirsch called attention to the fact that cholera morbus so often simulates in all respects Asiatic cholera, and furnishes some reasons for regarding it of an infectious nature. Koch says, in reply, that recent opportunities to investigate the morbid anatomy of this affection have failed to discover anything analogous to the comma-bacillus. Nor has he found it elsewhere, although here we must admit the force of Virchow's objections that many test-observations must be made before this can be admitted.

Another point of interest brought out in the discussion bearing on the diagnostic value of the bacillus was the practicability of its detection by any except those favored by the possession of laboratory facilities. The conclusion arrived at and shared in by Koch was that the difficulties are not so great, but that the educated physician anywhere may be qualified to detect it, particularly with the aid of cultures, which are especially distinctive in the case of this bacillus.

In the discussion as to the existence of a period of latent activity of the bacillus, came up the question of the origin of isolated cases of cholera, apparently communicated by the clothing carried in a trunk from a distant source of infection. In the same category must be placed the cases named by our esteemed contributor, Dr. Henry Hartshorne, in his letter in our issue of the 30th ult. Koch met the former objection by showing that the interval was within that of the viability of the comma-bacillus under circumstances favorable to its vitality—that is, moisture. Cases of the kind related by Dr. Hartshorne are always apocryphal, and can never be admitted in determining a scientific question.

Whatever may be the fate of the comma-bacillus, the address and the discussion must be regarded as most important and memorable. The series of questions were calculated to exhaust the subject thoroughly, while the professional eminence of the debaters insured and resulted in a cross-examination of the distinguished mycologist, in which he acquitted himself as creditably as in the original discourse.

MR. TAIT'S ADDRESS.

THE address on Abdominal Surgery made before the Canada Medical Association on August 25th, by MR. LAWSON TAIT, is given in full in this issue of THE NEWS. Its distinguished author manifests in it great ability, independence, and fearlessness—indeed some parts seem like a bold challenge to more than one person of acknowledged power and fame.

Let us first recognize the tribute Mr. Tait pays to the professional knowledge and skill of America in the prediction that soon students will come to the medical schools of this country rather than those of Europe, and seriously ask those who find nothing good in our system of medical education, whether this judgment of an eminent foreigner ought not to suggest to them the possibility of error in their constant disparagement of medical affairs here, and eulogy of foreign professional education.

Mr. Tait gives scant praise to Dr. Ephraim MacDowell, the great pioneer in ovariotomy; telling us that he, in 1809, imitated Robert Houston, of Glasgow, who, in 1701, made a "successful ovariotomy." It seems rather late in the day to adduce Houston's case as an ovariotomy, for this operation was simply a free incision into an ovarian tumor, evisceration of its contents, and "removal of several pieces of membrane." Such an operation done now would be called a partial or uncompleted ovariotomy, and the resemblance between an accidental, partial ovariotomy, and an intentional, complete ovariotomy is not so obvious that the great Kentucky surgeon should be spoken of as imitating the Glasgow operator, of whom, most probably, he had never heard. Mr. Tait's native land, Scotland, has enough professional glory without his taking a leaf from the laurel crown of MacDowell, and giving it to one who has no right to it, as the profession generally has judged.

Just praise is given Mr. Baker Brown, who certainly was one of the best operators London ever had. Mr. Tait clearly upholds strict cleanliness in abdominal surgery, in contrast with antiseptic practice, and decidedly to the advantage of the former. But this is a question that cannot be settled by the experience of one, or of half a dozen operators.

Omitting reference to the many hard blows given the most famous of English ovariotomists, some of which may seem to the casual reader as expressing needless criticism, probably the most interesting as well as the most valuable part of the address is that relating to the removal of the uterine appendages for uterine myoma, or for chronic and incurable disease of the ovaries or oviducts; this operation in the latter case is peculiarly Mr. Tait's, not only as to his being the first to perform it, but also as to the frequency with which he has done it, and to his having had as yet comparatively few followers. The profession will be very glad to have from Mr. Tait so clear and condensed an exposition, as he has here given, of the conditions he regards as requiring his operation, and the results following it.

Battey's operation he eyes somewhat askance; but he has not given it full consideration; he has not weighed all the indications for it that Battey himself has presented, and therefore his judgment is only qualified and partial, not complete and conclusive.

It is to be hoped that in some of the great cities of the United States which Mr. Tait will visit before his return to England, he may be induced to give to the profession more at length his views upon abdominal surgery, especially concerning the operation with which his own name is connected.

CIRSOID TUMORS OF THE HAND.

IN a paper read before the Société de Chirurgie, and published in the *Union Médicale*, No. 65, 1884, POLAILLON, as the result of the study of 26 cases, including one of his own, arrives at the conclusion that the only efficient treatment of cirsoid aneurism of the hand consists in obliteration or destruction of the vessels of the tumor itself. Compression was futile in the 7 instances in which it was resorted to; and only 2 of the 13 cases in which the arteries of the forearm or arm were ligated were successful.

When the tumor is small, circumscribed, and nonadherent to the deep tissues, excision is indicated, and in certain cases the vessels may be destroyed by the thermo-cautery or chloride of zinc; but as a general measure, by far the surest and safest procedure, according to Polaillon, is the injection of a dilute solution of perchloride of iron, conducted under proper precautions. The circulation of the tumor having been arrested for ten minutes by compressing the brachial artery or the ulnar and radial arteries, a tubular needle is made to penetrate the vessels themselves, and not the connective tissue which surrounds them, as will be indicated by the escape of arterial blood, when the canula of the charged Pravaz syringe is passed through the needle, and from five to ten drops of the solution deposited in the vessel. One injection rarely suffices, but the operation is so free from danger that it may be repeated at intervals of five or six days until the tumor becomes hard, and its pulsation and souffle cease.

That this plan of treatment is not always successful is shown by Polaillon's own case, in which, ten years after an apparent cure, the symptoms were found to have recurred, and the tumor had increased in size. Had the author been thoroughly conversant with the literature of the subject, he would have had to add that injection is not always safe, as Spence has recorded a case in which it had to be followed by amputation; and Keen has, moreover, reported an amputation after injecting a traumatic aneurism of the hand with subsulphate of iron.

While it is true that hemorrhage may be excessive when the tumor is excised without taking the precaution to apply the bandage of Esmarch, it is none the less true the bleeding may be averted by resorting to that preventive measure, and that every case of excision as yet reported has been successful. As compared with the injection of perchloride of iron, we have no hesitation in declaring that excision, cautiously and skilfully practised, is the more rapid, safe, and efficient means of dealing with arterial varix, and in making this statement, we believe that we express the views entertained by the most experienced surgeons on this side of the Atlantic.

IN the thirty-six hitherto recorded examples of ligation of both common carotid arteries, either simultaneously or at variable intervals, there is not a single one in which the operation was demanded for spontaneous aneurism of both trunks. Hence, the case reported by RIEGNER, of Breslau, in the *Centralblatt für Chirurgie*, No. 26, 1884, in which this condition existed, is to be regarded as a surgical curiosity.

On the 21st of September, 1881, Riegner successfully tied the left common carotid of a man fifty-four years old, for a spontaneous aneurism of that vessel. On the 5th of April, 1884, the right artery was ligated for a similar affection of its trunk, the tumor having made its appearance a year and a half after the first operation. On the following day there were slight delirium and motor paralysis of the left arm, but these symptoms disappeared in twenty-four hours, and the patient was discharged on the eighteenth day.

THE Navy Department has promptly acted upon our recommendation of last week, and has instructed the Court of Inquiry to ascertain whether color-blindness on the part of any of the officers or men of the Tallapoosa was responsible for the collision at sea, by which that vessel was lost.

Fortunately, as the Board is sitting in Boston, it will be easy for it to obtain the requisite expert aid to conduct satisfactorily the investigation on this point, and without which it would be difficult for it to reach a correct conclusion. Tests with lanterns and flags, which naturally suggest themselves to the lay mind, have been found to be fallacious, since, under favorable circumstances, a color-blind person may make correct guesses at the colors by means of the difference in the intensity of light in which they appear to him. And in using Holmgren's worsted test, which is the only reliable test to obtain correct results, the worsteds must be properly chosen, and the examiner thoroughly understand the method.

SOCIETY PROCEEDINGS.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Eighth Annual Meeting, held at Highland Falls, N.Y., August 27, 28, and 29, 1884.

(Specially reported for The Medical News.)

The Eighth Annual Meeting of the American Dermatological Association was opened at Highland Falls, on the 27th of August.

After the report of the Council and the transaction of the routine business of the Association, the **President, Dr. R. W. Taylor**, of New York, delivered a brief introductory address, and then declared the meeting open for scientific work.

Dr. W. A. Hardaway, of St. Louis, reported

A CASE OF MULTIPLE XANTHOMA OF THE SKIN, EXHIBITING THE PLANE, TUBERCULAR, AND TUBEROUS VARIETIES OF THE DISEASE.

In summing up the history of the case, the author called especial attention to the following points: that the bronzing of the skin preceded the development of the xanthoma by a number of years; that the eruption was perfectly symmetrical, with the exception of the lesions on the side; the involvement of the mucous membranes, and the undoubted implication of internal organs; the distribution of the tubercles on the side, which would seem to show that the nervous system exerted an influence in the development of xanthomatous lesions; the presence of such lesions in tendons and in the areolar tissue; and the probable implication of bone-structure in the same process; the evidence, although slight, of sugar in the urine; and, finally, the fact that some of the growths had disappeared.

From a study of this and other cases, and of the literature of the subject, he ventured to suggest that xanthoma was a diathetic affection, and that the connection of the disease with hepatic derangement was entirely secondary, or, in other words, that the jaundice occurred in consequence of the deposition of xanthomatous tubercles in the liver. He believed, however, that the liver was peculiarly prone to become the seat of these growths. It seemed to him, also, probable that in persons having what, for want of a better term, he would call "the xanthomatous diathesis," certain conditions of irritation or of unusual motion might provoke a local deposit *in situ—e. g.*, on the lids, over joints, etc. It seemed possible that his patient might owe his zosteriform deposits to an abortive attack of herpes zoster.

Dr. S. Sherwell, of Brooklyn, alluded to the old view that the liver was usually primarily affected in this disease, an opinion which he had never been able to corroborate in a large number of cases which had come under his observation. He thought that in the case reported, the affection of the liver and the consequent icterus were wholly secondary. In his own cases the patients were all in otherwise good health. One case in particular, which showed more than five hundred lesions, discrete and confluent, was that of a man in robust health with an admirable hereditary history, and with not the slightest evidence of hepatic derangement.

Dr. J. C. White, of Boston, said that he believed it extremely rare to find jaundice associated with xanthoma he himself having encountered it in only one instance of the many that he had seen of the disease, and he had paid especial attention to the point during the past twenty years. This remark he would apply to xanthoma of all grades of severity. He had seen only one case of xanthoma multiplex. He had often noticed a deposit of permanent pigment in both upper and lower eyelids, which rendered the contrast between the two colors very striking. He had never been able to trace any connection between xanthoma and a diathesis, but he had seen several cases of the disease in the same family. In listening to the reading of the paper he had been surprised at the statement that sugar had been found in the urine, in view of the low specific gravity of that fluid.

Dr. L. A. Duhring, of Philadelphia, remarked that a point of great interest in the case was the presence of the intense pruritus, beginning with the jaundice, and not with the disease. He had been much interested in tracing a possible relationship between the tumors formed in this disease and growths usually held to be of a different character, met with in the disease known as urticaria pigmentosa. He believed that two classes of affections had been described under this title, viz.: cases of true urticaria, with lesions of unusual persistency, and cases partaking more of the nature of xanthoma, with intense pruritus and pigmentation, and the formation of distinct papules and tubercles with the characteristics of urticaria. Such cases he regarded as identical with those which Tilbury Fox had described and figured in his Atlas under the name of "Xanthelasmoidea." Intense itching was also a feature of that disease. He had no doubt that a disease existed having a close relationship to xanthoma multiplex, but differing from it in that the lesions undergo involution, and run a definite course. He alluded to the fact that English observers, Dr. Morris in particular, claimed to have noticed spontaneous disappearance of xanthoma multiplex.

The President, Dr. R. W. Taylor, had also been unable to associate xanthoma with a particular diathesis, he having seen the disease in the strong as well as in the dyspeptic, the gouty, or the jaundiced. He had seen only one case of general xanthoma, which was in a woman in whom the entire body, as well as the face, was involved. If involution of the lesions ever did occur, he believed that it would take place on the body, for he thought that all would agree that it never did on the face. He recalled one case in which involution did take place, and in which it was attended with atrophy of the skin.

Dr. Hardaway, in closing the discussion, stated that he had only the patient's statement in proof that involution of some of the lesions had taken place, and had not observed it himself. He had been very much interested in the osseous lesions which the case presented, which were involved in great obscurity. In the literature of the subject he had found only one allusion to such lesions, by Colcott Fox, who spoke of peculiar changes in the bones of one case, "due to the rheumatic or gouty state."

EVENING SESSION.

DR. J. NEVINS HYDE, of Chicago, read a paper entitled

A CLINICAL STUDY OF LUPUS ERYTHEMATOSUS OF THE HAND.

He described, in detail, the symptoms of the disease as exhibited by four patients under his observation. In each the discoid variety of the disease was displayed upon one hand, and of the four patients one only had facial lesions, the latter appearing years after full evolution of lupus erythematosus had occurred upon the right hand. In several of the cases the fingers were involved, and in one the palm was chiefly invaded.

From a study of the similar cases recorded in dermatological literature it appeared that the average age of the patients was somewhat over twenty years, nearly two-thirds of them being women, confirming thus the observation made by Kaposi, in 1882. The cases in which the hand or hands were involved were all reported by either English or American observers.

DR. J. C. WHITE stated that he had seen three or four cases of lupus erythematosus in which the hands alone were affected. He had seen other cases of disseminated lupus erythematosus in which although the lesions were widely scattered the hands were free. In all these cases he had been unable to recognize any general disturbances which would indicate a depraved condition of the system. He believed that cases of the disease in which the hands were involved were not so very rare, but that the affection was often mistaken for other things.

DR. SHERWELL had never seen the disease on the palms, but had seen it on the backs of the hands.

DR. TAYLOR had seen two cases of this variety. They were well nourished, and seemed free from any diathetic taint.

DR. HYDE stated that his main object in writing the paper was to point out the ease with which the affection could be recognized, and to enrich the scanty literature of the subject.

DR. S. SHERWELL then offered

A SUGGESTION RESPECTING THE TREATMENT OF ACNE AND ACNE ROSACEA IN THE MALE SUBJECT.

He stated that while in the text-books on dermatology much stress was laid on disturbances of the gastro-intestinal tract as reflex causes of the diseases in question, but little attention was usually given to disorders of the genital apparatus in the male. In America only two authors had recognized the importance of such disorders, viz., Piffard and Hyde. He fully coincided with them in this respect, and after speaking of the benefits which he had obtained from the use of ergot in these diseases occurring in the female, he proceeded to call attention to the use of the cold steel sound in the male. He believed that in some of these cases there was a condition of chronic passive hyperæmia of the urethra, especially at the junction of the bulbous and prostatic portions, in relieving which the use of the cold sound was often of great benefit. He detailed a case in a young man, and alluded to another which closely resembled it, in which he had, at various periods, treated the disease (acne rosacea) with local agents as well as measures directed to the improvement of the general health, with but temporary benefit. Finally, he had resorted to the gentle introduction of a cold sound at intervals of, at first, three days, and later, of a week. Improvement in the condition of the face began almost immediately, and now the patient was almost well. During this period no change had been made in the treatment in other respects.

DR. A. R. ROBINSON, of New York, supposed that all would agree that the cause of acne was usually some disturbance which acted in a reflex manner, except in strumous cases, in which, of course, cod-liver oil would render great service. Of course, if urethral irritation were present, the use of sounds might do good, and he thought the suggestion an eminently philosophical one.

DR. G. H. FOX, of New York, called attention to the fact that patients, after putting themselves under a physician's care, often made great changes in their hygienic regimen, with or without instructions, and he thought that, in many cases, this might be the true cause of an improvement which the physician might attribute to some special plan of treatment. The suggestion concerning the use of the sound impressed him favorably. He had seen eczema of the anus and scrotum relieved by the passage of sounds.

DR. SHERWELL was positive that there had been no change in the regimen of the two cases which he had described, and the symptoms of intense irritability of the urethra at the point mentioned had been rapidly subdued by the use of the instruments.

DR. JAMES C. WHITE then reported

A CASE OF UNILATERAL CHROMIDROSIS,

in a workman in a sugar-refinery, whose shirt had been stained of a bright-yellow color for a period of several months. After wearing the garment for a few days, the left side, from the shoulder to the flap, looked as if stained by saffron. There was apparently no excessive perspiration of this side of the body, nor were the patient's garments stained at all elsewhere. An analysis of the material absorbed by the shirt showed that it was of an oily character, readily extracted by ether, and yielding peculiar absorption-bands by the spectroscope. Its nature was not more definitely determined. Its source—*i. e.*, whether excreted by the sweat-glands or sebaceous glands—was also uncertain. The color was not due to the presence of bacteria, which have been found in some of the few cases of yellow sweat on record. The affection was immediately controlled by local treatment, and had not recurred after an interval of four months' observation.

DR. WHITE also reported some

CASES OF DERMATITIS SUPPOSED TO HAVE BEEN CAUSED BY CONTACT WITH ARSENIC.

He gave brief notes of three cases of *arsenical dermatitis* in connection with the report of a train of uncommon cutaneous manifestations in a mother and her new-born infant, after confinement within a chamber the walls of which were covered with arsenical pigments. The object of the paper was to raise the question, How far is the apparent case of "pityriasis maculata et circinata" in the mother dependent upon the presence of arsenical compounds in the atmosphere of the lying-in chamber, an affection concerning the etiological relations of which nothing is known? In the infant, the symptoms were of an eczematous type, with unusual manifestations of intertrigo.

DR. SHERWELL said that the paper recalled to him an obscure case of bullous eruption now under his care (which he had called pemphigoid). The bullæ were large and very tense, sprang up rapidly and on all parts of the body of the patients—a man and his wife.

DR. WHITE asked if they had recently landed, and, on being answered in the affirmative, said that they were probably cases of mosquito-poisoning. He had seen cases of bullous eruptions in persons who had never before been exposed to the attacks of these insects, in which the lesions were often as large as pigeons' eggs. He alluded to a case of the kind in which lesions appeared during the winter, when no mosquitoes were about. On visiting the home of the patients he found that they lived in a damp, cave-like place, in which he found numerous large and active mosquitoes. He thought the presence of the bullæ on the body and thighs in such cases could be explained by the throwing off the covering of the bed during sleep. He felt certain that if Dr. Sherwell would investigate he would find that his cases were of this nature.

(*To be concluded.*)

CORRESPONDENCE.

THE EIGHTH INTERNATIONAL MEDICAL CONGRESS.

(*From our Own Correspondent.*)

COPENHAGEN, August 17, 1884.

THE Eighth International Medical Congress is among the things that were. Its promoters and managers have good reason to be proud of the results they have obtained, the number and character of the papers presented, the interest manifested in the work of the Sections, and the magnitude and splendor of the social entertainments provided. When it is remembered that the total population of the kingdom of Denmark is only half that of London, one can hardly express too great admiration for and astonishment at the hospitality with which Copenhagen has received her guests.

The total number registered as members of the Congress was seventeen hundred and forty, and the number of foreigners present was greater than at any previous Congress, even that at London not excepted. Of the Danish members many were not physicians. No credentials were required; apparently any one could register, and obtain a ticket of membership, on paying the fee, which for foreigners was twenty kroners (about $5.60), and for Danes fifty kroners (about $14.00).

The opening of the Congress in the hall of the Palace of Industry, on Sunday, August 10, was an impressive scene, although not so imposing as the opening scene of the London Congress in St. James Hall, owing to the fact that the room was much smaller, and there was no platform upon which to gather the notabilities in full view of the audience. The ceremony was very simple, consisting of an address of welcome by the President, Prof. Panum, and short congratulatory addresses by Paget, Pasteur, and Virchow, after which the President again mounted the rostrum, and gave a history of the organization of previous Congresses. The King and Queen of Denmark, and the King of Greece, with many Court officials, were present, but their part in the ceremony was entirely a passive one.

On the evening of Sunday, the President gave a dinner at the Hotel d'Angleterre to the notabilities of the Congress, about two hundred guests being present. According to the Danish custom, speaking began after the first course, and continued at intervals throughout the dinner. On this, as on most other occasions of a like character during the Congress, no American was requested to speak, it being apparently considered that Sir James Paget should always represent all the English-speaking members of the Congress. Certainly, no more eloquent orator could have been found; but the American representatives were nevertheless somewhat surprised and annoyed at the complete omission to recognize the United States as a separate nation.

The arrangements for registration were good. All who had, prior to August 1, notified the authorities of the Congress of their intention to be present, found their cards of membership duly prepared and ready for them on their arrival.

On Monday morning, the work of the Sections commenced, and went on for the most part smoothly and according to programme. The absence of Mr. Lister, who was to have presented the first paper in the Surgical Section, created some confusion in the arrangements of that Section; but there was abundance of material to fill the gap.

Monday evening was devoted to entertainments by the various Sections of the specialists connected with each department. This proved to be an excellent arrangement as a means of bringing together socially those who are interested in the same subjects, and is an example which might well be followed in future meetings of this kind.

The address of Pasteur in the general session, on Monday afternoon, was merely a repetition of what he has already published with regard to hydrophobia, with the addition of the report of the Commission appointed by the Minister of Public Instruction in France to verify his statements. Pasteur looks very well, but moves slowly and with some difficulty, not having complete control over the muscles of one side.

On Wednesday, the Congress took a recess to permit of an expedition to Elsinore and the Castle of Kronborg, celebrated as the scene in which is laid the play of Hamlet. A very elegant lunch was provided in the Castle by the Reception Committee, and, after the lunch, the company went out on the grassy ramparts overlooking the sea, and were served with coffee. The day was pleasant, and the whole scene was exceedingly picturesque.

On Thursday evening, the city of Copenhagen gave a dinner to the Congress in a temporary building erected for the purpose at the water's edge. Twelve hundred persons were seated at this dinner, which was elaborate and exceedingly well served. During its progress, steamers gaily decorated with flags were constantly passing in view, the water-front being simply one large window. Music, singing, and speeches came in between the courses, and at the close the whole party was taken by boats to the Tivoli gardens, about a mile distant, where there was a grand illumination, a concert, fireworks, etc. Taking it altogether, this entertainment surpassed anything of the kind which has occurred at any previous Congress.

I shall not occupy more space with descriptions of the social features of the Congress, and will only say that they have been all that could be desired. A good, plain, simple lunch has been provided every day for the members of the Congress on a plan essentially the same as that followed at Philadelphia in the Congress of 1876.

With regard to the scientific work of the Congress, the general feeling is that it has been satisfactory both in quantity and quality. This, however, the readers of THE MEDICAL NEWS can judge for themselves when reading the reports of the proceedings of the several Sections.

With regard to the next place of meeting of the Congress, there was at first considerable difference of opinion. It was known that an invitation would be extended from America, and the English, Scotch, and Irish members were in favor of its acceptance. The French and some of the German members did not wish to accept it, because of the time and expense required, and also from fear of sea-sickness. Virchow desired to have the next Congress at Berlin; but no formal invitation was presented, and the general feeling, even among German physicians, seemed to be that the time has not yet come for the Congress to go to Berlin. An invitation was presented from Rome; but Italy has already had one Congress, and Rome is very malarious in August and September. St. Petersburg was also talked about; but after the formal invitation from American physicians was presented to the Congress by Dr. Billings, it became evident that it would be accepted, and this was accordingly done on the last day with general applause. Many of the prominent members of the Congress declare their intention of going to Washington in 1887, and it is probable that, when the time comes, most of them will carry out this purpose.

The American Committee of Organization for the Washington Congress will have a difficult task before it, and it will require the support of the whole profession of the country to make it such a success as it ought to be made; but if American physicians take hold of the matter in earnest, there can be no doubt of the result. If the members of that Congress leave Washington as well satisfied as the members of the present Congress, taken as a body, feel in leaving Copenhagen, it will be a great success.

(*From another Correspondent.*)

COPENHAGEN, August 16, 1884.

The Eighth Session of the International Congress opened at Copenhagen, according to programme, in the presence of their Majesties, the "Kongen of Danamark and le Roi des Hèllenes," on Sunday, August 16, at 1 P.M., with all the pomp and glitter of a regal ceremony. The Exposition building was gaily decorated with flowers and graced with the flags of all nations as the assembled delegates and visitors crowded into the hall. The whole array of Denmark's livery was on the street in front, where were gathered, to witness the imposing spectacle of the arrival of two kings, such a multitude of people as to keep the police busy in clearing the road.

Every member of the Congress had had put into his hands before arrival at the hall a greeting on the part of the civil authorities, in the form of a paper faced with a very good portrait of Pasteur, who is evidently the hero of the hour, as all the prominent shop-windows display his picture in the most conspicuous place. Photographs of Sir William Paget, Gull, Esmarch, Donders, Virchow, Chauveau, Axel Key, Koch, and others are also to be seen here and there. The greeting appears in the Danish, German, French, English, and Italian languages, and declares a cordial welcome to all the guests. The salutation runs as follows:

"*To the Eighth International Medical Congress:*

"The Danish medical state, the citizens of Copenhagen, and the entire Danish people do, to-day, welcome the Medical Congress in the capital of Denmark.

"It is with a feeling of pride that Copenhagen welcomes the celebrated representatives of one of the most advanced sciences.

"The medical science with its humane purposes has, in preference to all other sciences, a specially international character. No other profession than the medical is at the same time so deeply connected with the daily life of mankind and with the highest problems of human knowledge, no other calling has to a higher degree made itself deserved of suffering humanity and more contributed to softening the evils that are the unavoidable consequences of growing civilization.

"It is with gratitude that the Danish medical men, in the name of the whole people, have accepted the appeal to become hosts of the Eighth International Medical Congress. This honor involves, that the great world does not look upon Denmark as a country so distant from the great thoroughfare of civilization that it should be unable to find a place of meeting large and rich enough to give room for its studies, so fertilizing and blessing to mankind.

"Denmark, certainly, does not rank high in the council of the nations of the world, yet in our little country constantly reigns a feeling of the necessity to small nations of trying their utmost to keep pace with the other nations, where not the material but intellectual faculties are dominating. Denmark can, with a just feeling of pride, point to a number of men in more than one respect deserving well of mankind. Denmark is able, if it be not in every respect, to display scientific institutions, not grand, perhaps, but nevertheless institutions up to the claims of modern science.

"It is with these feelings that the Danish government, the Danish people, the magistrates of Copenhagen, and our medical men greet the bloom of the medical state of the civilized world, and it is with the fullest assurance that from all parts, high and low, there will be shown our guests every kind of friendliness and hearty welcome.

"A welcome to the members of the Medical Congress."

After a speech of welcome by Prof. Panum, President of the Congress, the lions of the occasion were put on exhibition with short addresses, Profs. Virchow, Paget, and Pasteur, eliciting the heaviest rounds of applause.

Foreign members of the Congress suffer great inconvenience from their inability to learn from the newspapers anything that has been done in the Sections which they have been unable to attend. For there is no daily paper published in Copenhagen, a city of 300,000 people, in any other language than the Danish. Since the appropriation by Prussia of Schleswig-Holstein, the biggest half of Denmark, a deep feeling of animosity is cherished against the Germans everywhere: in Copenhagen, all German papers have been suppressed. In any American city the Congress itself would issue daily reports of the proceedings of the day before, but here there is nothing but the bulletins announcing the work of the day. The consequence is no one not understanding Danish can be informed of the work of any Section other than the one he attends.

The Medical Section

met in an upper lecture-room of the University building, and opened with a report by **Prof. Austin Flint** *On a Uniform Nomenclature of Auscultatory Sounds in the Diagnosis of Diseases of the Chest.*

At the meeting of the International Medical Congress, in London, in August, 1881, the following resolution was adopted by the Section of Medicine:

Resolved, That a committee be appointed to report to the Medical Section of the next Congress, wherever it may meet, on a uniform nomenclature of auscultatory sounds in the diagnosis of diseases of the chest. The following were appointed members of this committee:

Prof. Austin Flint, of New York, Chairman. Prof. Ewald, of Berlin; Prof. d'Espine, of Geneva; Dr. Douglas Powel, of London; Dr. F. A. Mahomed, of London.

At a meeting of this Committee in London, it was agreed that each member of the Committee should send a report to the Chairman, and the Chairman engaged to send to each member the several reports, or an abstract of them, the subsequent report of the Chairman to the Congress to be based on the reports collectively.

The Chairman of the Committee has received reports from each member of the Committee. The result of the comparison of the several reports is a very close approximation to a uniform nomenclature of auscultatory sounds. The points of difference relate to the following sounds, as regards either the names or their definition:

1. The respiratory sound denoting pulmonary cavity.
2. The dry and moist adventitious sounds produced within the bronchial tubes.
3. The scope of the terms crepitation, râles crépitants, Knisterrasseln.

Dr. Flint read only the conclusions of his report, and presented for inspection the following tabulated lists of terms to be used as synonyms in all lands.

Criticisms upon this report having been made by a number of members, it was decided to adopt this list as a provisional report, to continue the same Committee, to enlarge it by the addition of members from other lands, and to dispose of the subject at the next annual session.

Dr. S. Laache, of Christiana, then read a paper on the *Value of the Later Investigations of the Blood Corpuscles in Anæmia and Leukæmia.*

The value of these researches lies in the great precision with which anæmic conditions can be understood. By means of the changed and much simplified methods of Vierordt and Welcker, and, later, of Malassez and Hayem, the clinician can now determine with tolerable certainty not only the relative number of the corpuscles, but also the coloring power of the blood, whilst formerly these could only be recognized in an uncertain degree.

In anæmia after hemorrhage both the number of the red corpuscles and the amount of hæmoglobin in the blood may be far less than fifty per cent. without causing immediate death, and without restitution to health being impossible, even though new blood be not added by transfusion. During the process of regeneration the formation of new hæmoglobin does not take place so rapidly as that of the red disks. In other cases of secondary anæmia the decrease, by complicating hemorrhages, of the coloring matters of the blood is generally but little proportional; cancer is an exception, though only in this case when the general state of nutrition of the patient is essentially changed.

In chlorosis two forms must be recognized, according to the proportion of the red disks: the one with either no, or only a very unimportant affection of the red disks—pseudochlorosis; and the second, true chlorosis, in which the red disks are affected, and sometimes very considerably. In chlorosis not only is the coloring power of the blood reduced to a greater or less degree, but also the number of the red corpuscles, the former being generally most affected. The distinction of these two forms is important, since it is in true chlorosis that iron exerts its well-known action. This is due to the fact that by the use of large doses of iron an active formation of new red disks and hæmoglobin, especially of the latter, takes place.

In pernicious anæmia the number of the red disks falls below 500,000 per cub. mm. without causing death, and without the impossibility of restitution to health. The proportion of the red disks is, in this disease, greater as a rule, and they contain more hæmoglobin than is normally the case.

Whilst the proportion of the white corpuscles in all

PALPATION.

BRITISH LIST.	AMERICAN LIST.	GERMAN LIST.	FRENCH LIST.
Dr. Powell and Dr. Mahomed.	Dr. Austin Flint.	Prof. Ewald.	Prof. D'Espine.
1. Vocal fremitus.	Vocal fremitus.	Stimmfremitus, oder Vocalfremitus.	Vibrations thoraciques.
2. Rhonchal fremitus.	Rhonchal fremitus.	Rhonchofremitus, oder Bronchialfremitus.	(Not included.)
3. Friction fremitus	Friction fremitus.	Pleuritisches resp. Pericarditisches Reiben.	Frottement.

PERCUSSION.

1. Tympanitic resonance.	Tympanitic resonance.	Tympanitischer Schall.	Son tympanique. (*a*) grave, (*b*) élevé.
2. Amphoric resonance.	Amphoric resonance.	Metallklang.	Bruit de pôt fêlé.
3. Diminished resonance. Dulness.	Diminished resonance. Dulness.	Dämpfung.	Submatité.
4. Absence of resonance. Flatness.	Absence of resonance. Flatness.	Absolute oder starke Dämpfung.	Matité.
5. Increased resonance.	Increased or vesiculo-tympanitic resonance.	Hypersonorer Schall.	Son pulmonaire exagéré.
6. Bell sound.	(Not included.)	(Not included.)	(Not included.)

AUSCULTATION.

First Group. Varieties of Breath Sounds.

1. Exaggerated Syn. Puerile. Compensatory. Supplementary.	Exaggerated, etc.	Verschärftes Athemgeräusch.	Respiration exagérée.
2. Diminished. Syn. Feeble. Weakened vesicular murmur.	Diminished, etc.	Abgeschwächtes Athemgeräusch.	Respiration diminuée.
3. Suppressed. Syn. Absence of breath sound.	Suppressed, etc.	Fehlendes Athemgeräusch.	Respiration supprimée.
4. Prolonged expiration. General or local.	Prolonged expiration. High or low in pitch.	Verlängertes Exspirium.	Expiration prolongée.
5. Interrupted inspiration. Syn. Jerking, wavy, cog-wheeled.	Interrupted respiration, etc.	Saccadirtes Athemgeräusch.	Respiration saccadée.
6. Tubular. Syn. Bronchial. High-pitched blowing.	Tubular. Bronchial, etc.	Bronchiales Athemgeräusch, (*a*) stark, (*b*) tief.	Souffle bronchique, (*a*) superficiel, (*b*) profond, (*c*) doux, (*d*) fort.
7. Vesiculo-tubular. Syn. Broncho-vesicular. Harsh, coarse, subtubular.	Broncho-vesicular. Syn. Vesiculo-tubular.	Unbestimmtes Athemgeräusch.	Respiration rude, broncho-vésiculaire.
8. Amphoric.	Amphoric.	Amphorisches Athemgeräusch.	Souffle cavitaire amphorique avec écho musical ou métallique.
9. Cavernous.	Cavernous.	(Not included.)	Souffle cavitaire simple ou sans écho musical.

Second Group. Adventitious Sounds.

1. Rhonchi. Dry musical sounds. (*a*) Sonorous, (*b*) Sibilant.	Rhonchi or dry bronchial râles. (*a*) Sonorous, (*b*) Sibilant.	Rhonchi. Trockene Rasselgeräusche. (*a*) sonor (schnurrend), (*b*) sibilans (pfeifend).	Ronchus. Râles secs. (*a*) Ronflants, (*b*) Sibilants.
2. Stridor.	Stridor.	Stridor. Stenosengeräusch.	Sifflement laryngé. Bruit de cornage. (*a*) Trachéal, (*b*) Bronchique.
3. Râles. Syn. Bubbling râles, etc. (*a*) Medium, (*b*) Large. High or low in pitch.	Moist or bubbling râles. (*a*) Large, (*b*) Medium, (*c*) Small. High or low in pitch.	Feuchte Rasselgeräusche. (*a*) grossblasige, (*b*) mittel grossblasige, (*c*) kleinblasige.	Râles humides. (*a*) Gros, (*b*) Moyens, (*c*) Fins. (*a*) A timbre bronchique, (*b*) Sans timbre ou simple.
4. Gurgling.	Gurgling.	Höhlenrasseln.	Gargouillement.
5. Clicking.	Clicking.	(Not included.)	Craquements. (*a*) Secs, (*b*) humides.
6. Crepitation. Syn. Crepitant râle.	Crepitant râle or crepitation.	Knisternde Rasselgeräusche, Knisterrasseln.	Râles crépitants.
7. Metallic tinkling.	Metallic tinkling.	Metallisches Rasselgeräusch, Metallklang.	Tintement métallique.
8. Splash.	Splash.	Succusionsgeräusch.	Succussion Hippocratique.
9. Friction. (*a*) Dry, (*b*) Moist.	Friction.	Reibegeräusch.	Frottement.

Third Group. Varieties of Voice Sounds.

1. Increase of vocal resonance.	Increase of vocal resonance.	(Not included.)	Voix exagérée.
2. Diminution or absence of vocal resonance.	Diminution or absence of vocal resonance.	Abschwächung und Fehlender Stimme.	Voix diminuée.
3. Bronchophony.	Bronchophony.	Bronchophonie.	Bronchophonie.
4. Pectoriloquy.	Pectoriloquy.	Pectoriloquie.	Pectoriloquie.
5. Ægophony.	Ægophony.	Ægophonie.	Egophonie.

The lists are arranged in the order of their reception.

the above-mentioned states is inconstant, their increase in leukæmia is a predominating symptom of this disease. Their size is, as a rule, much changed. The red disks may be of normal proportions even in vigorous development of the disease; and the reduction of their number does not necessarily reach the extreme degrees of the three diseases spoken of above, even when the disease has lasted a year.

PROF. TOMMASI-CRUDELI, of Rome, followed with a discourse, illustrated by drawings and microscopic preparations, on the subject of *Malaria*, dwelling upon the bacillus malariæ and more especially upon its influence in dissolving and disintegrating the protoplasm of the blood corpuscles, liberating the hæmoglobin to be deposited in the brain and elsewhere. Though the paper was interesting, it contained nothing especially new to those familiar with the works of Cuboni and Marchiafava.

The Section now adjourned to hear Pasteur on the subject of *Microbes Pathogènes et Vaccins*, in an address which contained no contributions to his work with which your readers are not already thoroughly familiar.

Pretty much the whole of the second day was taken up with *Tuberculosis*. The honor of introducing this subject was entrusted to PROF. EWALD, the accomplished editor of the *Berliner klinische Wochenschrift*.

Prof. Ewald took as his title *The Etiology, Diagnosis, Prognosis, and Treatment of Tuberculosis in Reference to Recent Researches in Pathological Anatomy and Experimental Pathology*, and in his paper which was really too long for such an occasion, covered the whole vast field thus announced. He commenced with the statement that the bacillus, which should only be called after its discoverer, the bacillus Kochii, was the sole cause of tuberculosis, and whoever would now deny this fact would place himself out of the limits of discussion. Scrofula, lupus, perlsucht, were only other forms of the same disease, and though clinically distinct had the same pathogeny. The question of predisposition and heredity was also exhaustively treated, but nothing was expounded different from accepted views. It was not true that the number of bacilli in the sputum afforded always a fair prognosis of tuberculosis, as the number present may be a matter of accident. In prophylaxis stress was laid upon the destruction of the products of the disease as well as upon the rejection of the milk and flesh affected with the perlsucht. There was nothing new in the way of treatment, as, indeed, there could not be without the speedy knowledge of it throughout the world.

After Ewald, came PROF. JACCOUD, of Paris, with a paper on the *Treatment of Tuberculosis*. It was quite a treat to hear Jaccoud. His articulation is clear and distinct, his voice penetrating and finely modulated, his manner animated, it would be more fair to say vivacious. Jaccoud made what the country students with us would call a ringing speech, and I doubt if the halls of the sleepy old University (I mean no detraction to the splendid scholars of this land) ever before resounded to the echoes of such eloquence. I have myself heard the best speakers in all lands, but I have never listened to such a declamation as this before, *ex cathedra medicale*. His peroration received an ovation of applause. It was curious to observe the excitement to which this staid, I had almost said phlegmatic, assembly was stirred under the stimulus of such an earnest appeal.

But in glancing over the hall it was easy to see that the interest on the part of some of the members was rather psychological than real, evincing a surprise rather than a pleasure at witnessing such a phenomenon in a hall of science. For the whole tenor of the speech was to the effect that while the discovery of the bacillus was a brilliant accomplishment, it had contributed nothing to the cure of the disease. The speech closed with a glowing tribute to the genius of Pasteur, who was present at the time, and indicated that studies pursued in the direction which he had pointed out would yield most practical results.

The discussion upon this subject was postponed until all the papers upon it had been read.

DR. GRANCHER, of Paris, now took the stand to read his paper on the *Diagnosis of Pulmonary Tuberculosis in the Early Stage*. He stated that pulmonary tuberculosis is always very difficult to diagnosticate in the early stages. The sources of medical diagnosis are, however, numerous, and have been recently enriched by the discovery of the tubercle bacilli in the sputa. In pulmonary tuberculosis of pneumonic form, when softening is very rapid, the bacilli may be found when the diagnosis rests on the physical signs and is yet doubtful. The same is true when pulmonary tuberculosis begins with hæmoptysis, or is concealed under the symptoms of diffuse bronchitis, with or without pulmonary emphysema. The presence of the tubercle bacilli is, then, the best of all signs.

But when the tubercles develop silently, and softening is very slow—which is most commonly the case—when the patient begins to cough and expectorate only after the disease has lasted for some time, the bacilli only appear in the pus of the sputa when their presence is superfluous for the diagnosis. The bacilli, when present, may be very rare and escape notice in a microscopical examination, but they are present in sufficient numbers to produce inoculation in guinea-pigs. Hence we have a method of diagnosis founded on the positive or negative results of inoculation. This method, however, requires some time (one or two months, and more if the results of the first inoculation are doubtful, and control-experiments are necessary); even in this there may be causes of error, as it is necessary, for the success of an inoculation, to have at least one bacillus in the inoculating material, and in these cases the diagnosis should be made before the bacilli can be found. But the physical signs are sufficient for a probable diagnosis at first, and later for a certain diagnosis.

Grancher has, in several cases, followed the evolution of the physical signs from the very beginning of the disease to the period of softening. Commencing with an alteration in the softness of the inspiratory murmur, and with a lowering of its tone, it is followed, even after a long stationary period, by prolonged expiration, and then, later, by bronchophony, diminished resonance, and expectoration. This process may last for three or four years or more. The progressive decrease in strength, emaciation, the cough, sputa, and other symptoms run a parallel course with the physical signs.

At what time can the diagnosis be made? Should we wait until percussion and palpation give positive results? Or can we, under certain circumstances, diagnosticate the presence of tubercles by the single alterations in the respiratory murmur? If the certainty of the diagnosis increases proportionally with the physical signs, the gravity of the disease also increases; for the slight dulness and bronchophony correspond to the accumulation of tubercles, or, in other words, to the age of the softening. Every variety of anomalous respiration (the interrupted, feeble, rude) may be indicative of commencing tuberculization. But in Grancher's opinion, rude respiration with lowered tone of the *inspiratory* murmur is the earliest and best of the physical signs at the commencement of pulmonary tuberculosis. This respiratory anomaly is, in his opinion, sufficient, when it is clear, localized at the apex of the lung, and when the *terrain* is suspicious (rebellious chloro-anæmia, scrofula, heredity, etc.), to give a probable diagnosis.

This alteration of the subclavicular murmur is shown, at the commencement of the disease, more often on the left side than on the right, which confirms the opinion of those who think that, as a rule, tuberculosis of slow development commences on the left side; and diminishes the value of this symptom for those who think that the normal vesicular murmur is stronger in the left subclavicular region than the right. Grancher does not believe that there is any constant physiological difference in this respect on the two sides, but a transient or slight influence, a fugitive congestion at the time of the menopause for example, may alter the murmur on one side or the other. One should not, then, hasten to make a diagnosis of tuberculosis on the first discovery of rude inspiration, but this sign should lead to suspicion when it persists, and when rational symptoms are found on suspected *terrain*. Under these circumstances a probable diagnosis should be made, and the physician should at once begin treatment.

DR. QUINLAN, of Dublin, followed next with a paper on *The Use of Mullein in the Treatment of Tuberculosis*, for which he claims such wonderful results, as to have attracted to his hospital great crowds of patients. Dr. Quinlan passed around the house a gigantic specimen of the mullein over six feet in height, and distributed among the members several boxes of cigarettes made of its leaves. The principal points of his paper were as follows:

The Library of the Royal Irish Academy in Dublin contains a large number of manuscripts in the Celtic language, and treating upon medical subjects. Constant mention is made of the "cuineal mhuire" as a remedy in pulmonary diseases, and this plant has the most extraordinary reputation in the Celtic portions of the United Kingdom, and especially in Ireland, as a palliative and even curative remedy in cases of pulmonary consumption. In Ireland, although unrecognized by the medical profession, it has been for centuries given upon an immense scale in obedience to a steady demand on the part of phthisical sufferers; and during the last two years he undertook a scientific investigation as to its alleged powers, the highly satisfactory result of which he submitted to the Congress.

This plant is known to botanists as the Verbascum thapsus, and belongs to the natural order of Scrofulariaceæ. Its English name is the Great Mullein; in France it is known as Molène Bouillon Blanc, and in Germany as Kleinblumiges Wollkraut. The mode of using it is to place ʒvij of the dry leaves, or, much better, ℥iij of the fresh, in a pint of new milk, to boil and allow to stand for ten minutes, then to filter and add a little sugar. This whole mixture is to be drunk morning and evening.

A large number of cases of pulmonary consumption have been treated in St. Vincent's Hospital, Dublin, exclusively upon mullein. These cases were all carefully tabulated and the patients weighed once a week, great care being taken to insure conformity of conditions in this respect. The results arrived at are as follows:

1. In the early and pretubercular cases of the disease Mullein is weight-increasing and curative to a much greater extent than koumiss or cod-liver oil.

2. In advanced cases it does not cure, but gives greater relief to phthisical cough and prevents or checks phthisical diarrhœa.

3. It has no effect upon the colliquative perspirations of phthisis.

4. In phthisical coughs and in spasmodic coughs generally great relief can be obtained by smoking mullein leaves in the same manner as tobacco.

This can be effected either in an ordinary pipe or by means of cigarettes. On the dried mullein leaf powder a very weak solution of potassium nitrate is sprinkled and flavored with oil of cascarilla. These cigarettes are rolled in paper in the ordinary way, and are very pleasant to smoke. Mullein has been tried in watery infusion, but is disagreeable. The same remark applies to the extract or succus.

It may be said that the weight-increasing effects were due to the milk; but experience shows that this was not so. It is greatly liked by the phthisical sufferers.

DR. R. SHINGLETON SMITH, of Bristol, came next in order with a paper on *The use of Iodoform in the Treatment of Phthisis.*

After a short review of the history of iodoform as a drug for internal administration, the author gave an analysis of the results of treatment in forty-six cases arranged in tables to show the variation in weight before and after treatment: in twenty-nine out of the forty-six cases, there was an absolute gain in body-weight, amounting in one case to thirty-two pounds, and in another to thirty-three pounds. Other indications of improvement were fall of temperature, diminution of cough and expectoration, cessation of night-sweats, improved appetite. The drug was given in doses varying from one to six grains five times daily, and was continued for several months. Toxic symptoms of a mild character had been observed in some of the cases. The paper concluded with a reference to the local use of iodoform in tuberculous disease of the larynx.

The afternoon was devoted to the discussion of the papers read.

Remarks were made first by DR. GUTTMANN, of Berlin, who made the very good point that they were as familiar in Berlin as in Paris with the fact that the discovery of the bacillus tuberculosis did not cure consumption, and that they were acquainted with another fact, to wit—the reason why no remedy has been found to reach the disease, viz., because the bacillus tuberculosis, as the result of a great many experiments, proved to be more resistant to destructive agents than the tissues in which it was found.

DR. PIBBRAM, of Prague, paid a glowing tribute to Koch, and remarked that the discovery was as yet of too recent date to furnish practical results.

DR. CROCQ, of Brussels, followed in a very curious speech, discrediting all previous theories and facts, and declaring one of his own. The remarks were delivered in very voluble French, and as it is quite difficult to follow idiosyncrasies in a foreign tongue, I failed to make out exactly the author's views.

The remarks of the last speaker extended over so much time that the discussion was called to a close, with permission to DR. EWALD to make a short response, which was delivered in very good French, and chiefly expressed the satisfaction of the speaker at the unanimity of opinion regarding the fact of the existence and the causative relation of the bacillus of Koch. He could not respond to Dr. Crocq, he said, as this gentleman was not in accord with any of the recent views.

DR. BRANDES, of Copenhagen, now presented a case of *Myxœdema*, and made some remarks upon the pathology of this affection.

SIR WILLIAM GULL, of London, in the discussion which followed, was inclined to consider the case as one of simple cretinism in the adult. This affection, he said, is usually believed to be a disease of childhood only, but, in the speaker's opinion, existed or developed also in adult life.

DR. MAHOMED, of London, did not regard myxœdema as a disease of the thyroid gland alone, or as an affection of any one part of the body. It was the expression of a perverted nutrition, the result of affection of the nervous system from many different causes. He instanced two cases of recovery from the disease, and spoke of post-mortem examinations in which capsulitis of the liver was found, but no increase of mucin in the tissue affected.

The afternoon session closed with a paper by **DR. JOSEPH EWART**, of London, on *The Treatment of Chronic Diarrhœa and Dysentery in Persons returned from Tropical to Temperate Climates, by Milk Diet.*

SURGICAL SECTION.

(*From our Surgical Correspondent.*)

NORTH SEA, S. S. RONA, August 16, 1884.

On Monday the 12th, **PROF. PLUM**, of Copenhagen, took the Chair, and in a few feeling words spoke of the recent sad death of Dr. Holmer, who was to have been President of the Section. He called on Sir Henry Acland, of Oxford, to say a few words regarding him.

SIR HENRY ACLAND spoke of when he first made Holmer's acquaintance at a time when, as a stranger to Copenhagen, he needed the aid of a medical man. He spoke of Holmer's kindness, gentleness, and skill, and said that it was with some difficulty that he came to Copenhagen after he heard that Dr. Holmer was dead. He expressed, in the name of the strangers present, the deep regret that they felt for the loss of so distinguished a man, and he conveyed to the Scandinavian members of the Section the sympathy that was felt for them by their guests.

After the election of Vice-Presidents and Secretaries, Prof. Plum asked Prof. Volkmann to take the Chair.

PROF. ESMARCH, of Kiel, then read a communication on *Extirpation of the Cancerous Rectum.* After speaking generally of the pathology of cancer, the writer pointed out the danger of delay in operating on cancer of the rectum and the necessity for complete removal. Hemorrhage was checked by the use of the double ligature, all bands being tied before division. Sepsis was avoided by packing with sublimate gauze. Drainage and the escape of feces were obtained by the introduction of a large tube. The peritoneum was often opened when the tumor was situated high up. The mortality of the operation is about twenty per cent. The anus and sphincter were left, no stitches were used, and there was no necessity for excision of the coccyx to give space.

MR. BRYANT, of London, then read a communication on *Lumbar Colotomy as a Curative and Remedial Operation in Syphilitic, Simple, and Cancerous Ulceration of the Rectum and Colon, with an Improved Method of Performing the Operation.*

This paper is based upon Mr. Bryant's personal experience of eighty-two cases. It includes an analysis of the cases, and affords evidence which the author deems conclusive in support of the following propositions:

1. That in all cases of cancerous stricture of the rectum or colon, including the annular—which are not amenable to lumbar *colectomy* or anal excision—right or left lumbar colotomy is strongly to be advocated with the well-grounded hope of relieving suffering, retarding the progress of the disease, and of prolonging life even for five or six years.

2. That lumber colotomy is valuable as a *curative* operation in syphilitic and simple ulcerations of the bowel which resist other treatment, including cases of recto-vesical fistula; and that it is remedial in examples of volvulus of the sigmoid flexure, as well as of obstructions caused by tumors.

3. That to secure these advantages, it is necessary for the operation to be performed before the pernicious effects of obstruction occur.

The details of the improved method of performing the operation were also given.

Mr. Bryant then gave the following analysis of the whole number of eighty-two cases of colotomy: 60 were performed for cancerous stricture; 19 were performed for stricture and ulceration of the rectum not cancerous; 1 was performed for volvulus of the sigmoid flexure of the colon; 2 for obstruction due to pelvic tumors.

Side operated upon: Left lumbar colotomy was performed in 77, and right lumbar colotomy in 5 of these cases, all of the five being cancerous. Right lumbar colotomy was called for in 1 out of 12 cases of cancerous stricture.

Duration of life after the operation: 26, or 43 per cent. of the cancerous, and 6, or 31.5 per cent. of the non-cancerous cases, with one of the cases operated upon for obstruction, or 40 per cent. of the whole number of 82 cases operated upon, died within the month.

34, or 56 per cent., of the cancerous, and 13, or 68.5 per cent. of the non-cancerous cases, with the case of volvulus and one of the cases of obstruction, or 60 per cent. of the whole number of cases operated upon, received more or less fully the benefit of the operation.

Of the forty-nine successful cases:

16 cases,	9 cancerous, and	7 non-cancerous,	died within 6 months.
8 "	7 "	1 "	lived from 6 to 12 months.
12 "	9 "	3 "	lived from 1 to 5½ years.
5 "	1 "	4 "	were alive from 1½ to 14 years after operation.
8 "	8 "		had left the hospital convalescent.
49	34	15	

Sex.

Of the 60 cancerous cases:	40 were in males,	20 in females.
" 19 non-cancerous:	10 "	9 "
1 case of volvulus:	1 was in male.	
2 cases of obstruction:	1 "	1 in female.
Of the 82 cases:	52 were in males,	30 in females.

Cancerous stricture is more frequent in males. Non-cancerous stricture is found equally in both sexes.

Age.

The average age of the cancerous case,

When fatal was	53:	in male subjects 54,	in female 51.
" successful	44	" 46	" 41.

The average age of the successful being about 10 years less than that of the fatal cases.

No abnormality as to the position of the colon was met with in any of the 82 cases.

PROF. VERNEUIL, of Paris, opened the discussion. He began by saying that he performed his first case of excision of the rectum fifteen years ago, his first colotomy thirty years ago. He believed complete removal to be difficult, and recurrence after operation frequent, and his patients objected to colotomy. He thought all the painful symptoms were most easily relieved by making an artificial channel from the tip of the coccyx, with the thermo-cautery, to a point in the rectum above the stricture. He then passed the chain of an écraseur along this channel and brought it out at the anus, by which means he was enabled to divide the strictured part and sphincter bloodlessly and without danger to life.

MR. SAMPSON GAMGEE, of Birmingham, thought inguinal colotomy the preferable operation, but each case must be judged of by itself. No general rule will suit all cases.

MR. MARSHALL, of London, spoke of the value of the method of relief recommended by Prof. Verneuil.

PROF. VOLKMANN, of Halle, thought excision safer than colotomy. He spoke of the slow growth of cancer of the rectum, and the long time that elapsed before the glands became affected. He believed the comfort to be greater after excision than after colotomy. He never operates in cases in which he cannot reach the upper end of the disease. He gave chloroform and examined by the bimanual method before operating. No attempt was made to stitch the upper to the lower end.

MR. HENRY MORRIS, of London, spoke of the value of lumbar colotomy, and presented statistics of his practice.

PROF. KUSTER, of Berlin, spoke of the value of iodoform as a dressing after excision of the rectum.

PROF. PAQUET, of Lille, showed an example of *Hypertrophy of the Upper Jaw Removed by Excision and the Upper End of the Femur Removed in a Case of Amputation of the Hip-joint with the Thermo-cautery.*

MR. REGINALD HARRISON, of Liverpool, then read his paper on *The Treatment of Certain Cases of Prostatic Obstruction by Section of the Gland.*

This class includes cases in which there is unusual difficulty in introducing the catheter, in which the withdrawal of the urine is followed by no sense of relief, and in which the bladder, by the constant presence within it of pus and tenacious mucus, is converted into little else than a chronic abscess through which urine percolates. These, as well as some other forms of prostatic disease which might be included, are practically unrelievable by the catheter, and speedily terminate in painful death. He had been impressed with the advantage that followed the judicious employment of suitable bougies as dilators in cases in which the prostate threatened to obstruct micturition.

Influenced by observations of this kind, he was led to attach considerable importance to the treatment immediately following section of the obstructing portion of the enlarged gland with the view of rendering the latter more permanent than had hitherto been attempted.

The operation consists in opening the membranous urethra from the perineum on a guide, and introducing the finger within the prostatic urethra. The obstructing portion of the gland is then divided in the median line, partly by incision with a straight probe-pointed knife, and partly by divulsion with the finger or large-sized bougie until the access to the bladder is felt to be free. In doing this operation it is not desirable to make an opening larger than will admit the index finger from the perineum into the bladder, such an opening is completely filled up by the drainage-tube that is subsequently used, and consequently but little risk of hemorrhage need be entertained.

The drainage-tubes Mr. Harrison is in the habit of employing after section of the prostate has been effected are gum-elastic, with a special provision for the more thorough drainage of the bladder than has hitherto been attempted. This consists in the employment of a double tube. He attaches very considerable importance to the prolonged use of the drainage apparatus, as his object is to render the section of the prostate not a temporary one, as after a lithotomy where no such provision is made, but permanent. Hence he is in the habit of retaining these tubes for six, eight, ten, or twelve weeks. If after such periods, on removing the tube, he finds that a catheter can be made to enter the bladder easily along the natural route, or if, as it sometimes happens, urine forces its way in spite of the perineal tube along the natural passage, he regards these as indications that the object in view in the retention of the drainage-tube has been obtained. The regular use of the bougie is continued until the perineal wound has soundly healed, a process which usually takes place rapidly, and leaves but little mark. As a precautionary measure, patients are enjoined to continue to use the bougie occasionally.

It will be observed that section of the bar is preceded in all instances by a careful digital exploration of the prostatic urethra, with the view of directly determining the nature of the obstruction and the direction of the incision to remove it.

In some instances, in which stone in the bladder has been secondary to the formation of a prostatic bar and the incomplete emptying of the bladder, lithotomy has been selected as affording opportunity, not only for the removal of the stone, but the bar which led to its formation. In a case of recurring stone, this operation has been followed by the continued excretion of urine of an acid reaction, when after previous lithotrities the urine was invariably alkaline.

In offering an explanation of the results obtained, Mr. Harrison thinks we have it, not only in the means which are adopted to render the section of the prostate permanent, but further, he believes something is due to the introduction into the prostate of no inconsiderable quantity of shrinking or cicatricial tissue.

PROF. VOLKMANN spoke of the value of a perineal median opening with drainage, without dividing the prostate gland.

On Tuesday, at 9.30 A.M., **PROFESSOR SAYRE**, of New York, gave a demonstration to a large audience of continental surgeons on his method of applying *The Plaster Jacket in Cases of Pott's Disease of the Spine and in Lateral Curvature.* This demonstration was completed on Friday at the same hour; a case in which he had applied the jacket on Tuesday being then brought forward with the jacket in a finished condition.

At 10 A.M. MR. THOS. BRYANT, of London, took the Chair, and PROFESSOR OLLIER read a paper on *Excision and Arthrotomy in Tuberculous Joint Disease.* He recommended in those cases free removal of all diseased tissue, care being taken, by cauterization of the joint, to prevent tension. The sharp spoon and cautery were freely used to remove and destroy all diseased tissue.

DR. LOWENSTEIN, of Hamburg, showed a case in which he had *Excised an Ankle-joint* after the method of Mikulicz. The disease was completely removed, and the result closely resembled an aggravated case of talipes equinus.

PROFESSOR SKLIFFOSOWSKI, of Moscow, related his experience of such cases, and recommended a similar treatment.

DR. MACEWEN, of Glasgow, read a paper entitled *Osteotomy for Genu Valgum.* He brought forwards a large mass of statistics showing that the supracondyloid operation associated with his name had obtained the approval of a large majority of the profession, and that the operations of Ogston, Chiene, and Schede had been used by comparatively few British surgeons.

PROFESSOR OGSTON, of Aberdeen, said that he would now use MacEwen's method in preference to his own; and PROFESSOR CHIENE. of Edinburgh, promised to give it a fair trial. DR. SCHEDE said that in some cases he believed division of the tibia to be necessary.

DR. ROBIN, of Lyons, exhibited an ingenious *Instrument for Fracturing the Femur above the Condyles.* In the specimens he showed that the line of fracture was at a higher level than where the bone is divided by MacEwen.

MR. W. ADAMS, of London, demonstrated, by a series of photographs taken from cases of *Dupuytren's Finger-contraction,* the method which he preferred, by subcutaneous division of the fascia at many points, in the treatment of such cases.

In the afternoon a discussion took place on Professor Ollier's paper. This discussion was opened by Professor Chiene, of Edinburgh, and Professors Volkmann and Trélat took part in it. The opinion of Volkmann and Trélat was that the diseases of bone near joints were almost always tubercular, and that free removal of the diseased tissues was necessary in order to prevent generalization of the disease throughout the body.

DR. HOWE, of New York, showed a *Calculus* over eight ounces in weight which he had *Removed by the Suprapubic Operation* from a boy. The boy recovered satisfactorily. The peritoneum was wounded.

On Thursday, August 14th, PROFESSOR TRÉLAT, of Paris, took the Chair. It was hoped that Professor Lister would open the discussion on antiseptic surgery; much regret was expressed at his absence, and President Plum spoke of the honor that they, as surgeons, owed to Professor Lister.

PROFESSOR ESMARCH read a paper on the *Permanent Antiseptic Dressing.* He spoke of Lister as the master and teacher of them all. He desired: 1. Avoidance of suppuration. 2. Non-disturbance of the wound. 3. Exact hæmostasis. 4. Avoidance of cavities. 5. Drainage by leaving an opening between the stitches. Artificial ischæmia, catgut ligature, washing during operation with solution of salt in distilled water, afterwards with corrosive sublimate lotion. After applying deep stitches he applied peat pillows, no mackintosh, and lastly soft bandages, fixing the parts with glass bandage. This dressing was kept on for ten days or a fortnight.

PROFESSOR MOSETIG V. MOORHOF, of Vienna, read a paper on the *Iodoform Treatment of Wounds.* He used iodoform and nothing else, and simple water as a wash.

DR. SCHEDE, of Hamburg read his paper on *The Sublimate Treatment of Wounds.* He used no other antiseptic, and gave statistics of his results. He had had no poisoning since using 1 in 2000 to disinfect and 1 in 5000 as a lotion. He used glass wool instead of protective-sublimate moss as a dressing.

PROFESSOR MIKULICZ, of Krakow, used iodoform in the cavities of wounds lined with much membrane.

In the discussion which followed, Prof. Neudorfer laid special stress on dryness of the wound. Prof. Buchanan, of Glasgow, stated that he used carbolic acid, and laid much importance on free drainage. Mr. Schelkly, from America, at first used Listerism, but now used a combination of salicylic acid with iodoform or corrosive sublimate lotion with boric lint. Prof. Kœberlé, of Strasbourg, also spoke of the importance of preparing patients for operation, and said that no special antiseptic should be extolled at the expense of others. Prof. Trélat also spoke.

The general impression gained from this discussion was that each surgeon seemed to lay stress on his own method, and that with it he got good results.

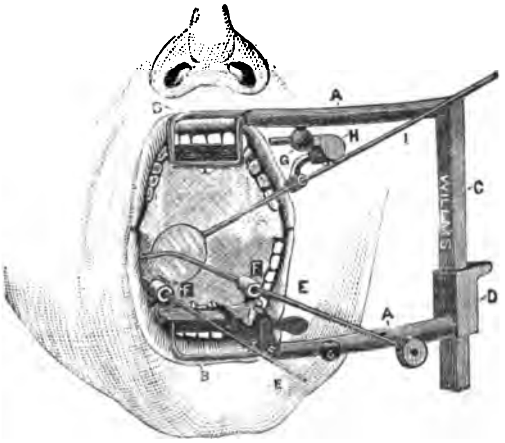
NEW INVENTIONS.

A NEW GAG, WITH TONGUE-DEPRESSOR AND MIRROR-ATTACHMENT.

BY RUSSELL MURDOCH, M.D.,
OF BALTIMORE, MD.

THE gag is a counterpart of an eye-speculum described by me in the *Transactions* of the American Ophthalmological Society for 1883.

It has two blades (A A) with teeth-rests (B B). At the distal end of the upper blade there is, at right angles to it, a rectangular bar (C). Similarly situated on the lower blade, is a sleeve (D) with square lumen. This sleeve fits closely over, and slides on the bar, and to effect this there is a convenient handle projecting from the side of the sleeve. The teeth of the patient lock the



instrument at any desired point, and consequently no set-screw or catch is needed.

The tongue-depressor (E) is made of No. 12 Stubbs's gauge wire. It is shaped like a long-armed capital letter U. A retaining button is screwed on one arm. When attached to the gag, the arms are encircled and slide through the two oscillating sleeves (F F), which ride upon the lower mouth-rest. These, together, maintain the horizontal plane of the depressor. A cog-wheel, attached to the right-hand sleeve, allows the surgeon to depress its point, but any return movement is prevented by a spring pawl.

The laryngoscopic attachment (H) consists of two elbows united by a universal joint. One has a sleeve which encircles the stem of a mirror (I), and through which it slides and rotates. The other elbow has a short rectangular arm, bevelled at its free end, and this fits in the socket of either of the raised buttons (G G) on the blades of the gag. The upper button supports the mirror in laryngoscopic, and the lower in rhinoscopic observations.

The chief claims of the gag for professional notice are the automatic character of the fixation by the teeth, and its greater promptness of removal from the mouth than any in use.

An attached tongue-depressor to a gag will, it is thought, commend itself as worthy of frequent trial in many throat operations. A suspended mirror, and also the addition of a palate retractor, suspended by an attachment similar to that of the laryngoscopic mirror to the other button on the gag, will give two free hands and a visible cavity while operating on a post-nasal growth.

NOTE.—These instruments have been made by the well-known firm of Wilms & Co., of Baltimore. They can be obtained of them singly or as a set.

NEWS ITEMS.

THE NEW HYGIENIC INSTITUTE IN BERLIN.—Dr. Robert Koch has been appointed Director of the new Hygienic Institute attached to the University of Berlin.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.—It is stated that as residuary legatee of the late Sir Erasmus Wilson, the Royal College of Surgeons of England will receive about £180,000.

CHOLERA PRECAUTIONS IN ENGLAND.—Sir William Vernon Harcourt, the British Home Secretary, has issued a circular to the officials of English prisons, urging them to take extraordinary precautions for the purpose of keeping the prisoners in their charge clean and the prisons in the best possible sanitary condition, in view of the continued prevalence of cholera.

The Home Secretary has also issued an official notice to the factory inspectors, ordering them to give especial care to the sanitary condition of all places wherein large numbers of operatives are employed and to give every necessary sanitary instruction to the factory hands.

This action on the part of the Cabinet is accepted as an indication that the government are more alarmed now than they have been at any time since the outbreak of cholera in France, and that they possess information of the actual introduction into England of the seeds of the plague and entertain fears of a probable outbreak of the scourge.

OBITUARY RECORD.—Died at Narragansett Pier, on Sunday, August 31st, RIGGIN BUCKLER, M.D., of Baltimore, aged fifty-three years. Dr. Buckler was born in Baltimore November 4, 1831; he graduated in the Arts at Harvard University in 1851, and received his degree of M.D. from the University of Maryland in 1853. He visited Europe and remained there four years in hospital service. On returning to this country in 1857, he settled in Baltimore in general practice, and soon achieved prominence in his profession. He twice held the place of Surgeon-General of the State of Maryland.

NOTES AND QUERIES.

PERMANGANATE OF POTASSIUM.

To the Editor of THE MEDICAL NEWS.

SIR: The *modus operandi* of permanganate as a deodorizer, that is, its immediate decomposition on contact with organic matter, is so frequently overlooked by prescribers as to seem to justify calling attention to this matter. For instance, in the last number of THE NEWS, page 184, an article appears, taken from a French journal, recommending that soles of cork, etc., be soaked in a solution of permanganate and dried, for use as pedal deodorizers. The permanganate would be decomposed at once on coming in contact with the organic material. The sprinkling of poultices with the solution is another mistake, for the same reason. Glycerine used in gargles, also, is equally destructive. Permanganate pills are now much in vogue for amenorrhœa; the salt can, with proper pharmaceutic skill, be put up in the pill form, an inorganic excipient being used, but the fact remains that it is decomposed on reaching the stomach, and any effect following the administration must be due to the manganese oxide.

Yours, T. D. REED, M.D.

MONTREAL, August 20, 1884.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 26 TO SEPTEMBER 1, 1884.

HEAD, JOHN F., *Colonel and Surgeon.*—Granted leave of absence for four months.—*S. O. 201, A. G. O.*, August 27, 1884.

WOODHULL, A. A., *Major and Surgeon.*—Detailed as member of Medical Examining Board, at U. S. Military Academy, West Point, N. Y., vice Capt. R. H. White, relieved. Upon adjournment of the Board, to return to his proper station.—*S. O. 201, C. S., A. G. O.*

BARTHOLF, J. H., *Captain and Assistant Surgeon.*—Relieved from duty in the Department of the Columbia, and to report in person to the Commanding General, Department of Texas, for assignment to duty.—*S. O. 199, A. G. O.*, August 25, 1884.

FINLEY, J. A., *Captain and Assistant Surgeon.*—The leave of absence granted him in S. O. 91, C. S., Department of Texas, extended two months.—*S. O. 198, A. G. O.*, August 23, 1884.

TAYLOR, M. E., *Captain and Assistant Surgeon.*—Granted leave of absence for four months, to take effect on arrival of a medical officer at Davids' Island, N. Y., to replace him.—*S. O. 200, A. G. O.*, August 26, 1884.

GIBSON, R. J., *First Lieutenant and Assistant Surgeon.*—Relieved from duty in Department of the Missouri, and to proceed to the Department of California for duty.—*S. O. 202, A. G. O.*, August 28, 1884.

DIETZ, WM. D., *First Lieutenant and Assistant Surgeon.*—Relieved from duty at the Military Academy, West Point, N. Y., and ordered to the Department of the Missouri for duty.—*S. O. 202, A. G. O.*, August 28, 1884.

APPOINTMENT.

MCCAW, WALTER D.—Appointed Assistant Surgeon, with rank of First Lieutenant, to date from August 20, 1884.

PROMOTION.

LIPPINCOTT, HENRY.—Promoted Major and Surgeon, to rank from August 17, 1884, vice Woodward, deceased.

THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

TYPHO-MALARIAL FEVER.[1]

BY ROBERTS BARTHOLOW, M.D., LL.D.,

PROFESSOR OF THERAPEUTICS AND MATERIA MEDICA IN THE JEFFERSON MEDICAL COLLEGE, OF PHILADELPHIA.

IT happened to me to constitute one of a Board of Medical Officers, convened in Washington, in the summer of 1862, to propose a system of reports for the preparation of the medical history of the War of the Rebellion. In the nomenclature then submitted to the Department for adoption was the term *Typho-malarial Fever*. This name, suggested by Dr. J. J. Woodward, was accepted as describing a group of cases, then supposed to be of frequent occurrence, in which the morbid complexus of typhoid fever was modified by a malarial complication. The name, not the conception, was new. The circumstances of the time favored the reception and permanent acceptance of the new term. The nomenclature adopted by the Board was made official, and a large part of the medical profession of the United States, then in the army, were required to adopt it, and the term, which originally was intended as a convenient designation, came to be regarded as the exponent of a pathological condition.

Dr. Daniel Drake, that great medical genius of the West, fifty years ago, recognized the fact that typhoid fever, as was and is the case with many other diseases, received a certain impression from an existing malarial poisoning. The late Prof. Dickson and other observant clinicians, in all parts of the world within the malaria-breeding zone, have long been familiar with this fact. There can be little doubt, I think, that this view has been greatly exaggerated. The typhoid fever of Louis—typical typhoid—is capable of many modifications, of many variations under climatic and other conditions; but in what degree, soever, the clinical history may vary, the morbid anatomy does not vary. Those who study from books rather than at the bedside, are often quite unconscious of the remarkable variations to which the malady is subject, and hence are too apt to find in these departures from the typical, new forms. Dr. Drake saw typhoid as it marched with advancing civilization—as it developed with increasing population—and he fancied that it possessed new features. Dr. Woodward saw the typhoid of the Chickahominy, of an army of unseasoned men, exposed to unprecedented conditions, and he concluded that it was a new malady compounded of the typhoid and malarial disease. Even Drake saw that, in a limited sense, the typhoid poison is antagonistic of the malarial. Typhoid is the fever of old, of cultivated countries, and dense populations; malarial of new countries and sparse populations. As new countries are opened up to cultivation and to settlement, the original malarial diseases are replaced by typhoid. For a time, and, indeed, during the whole period of malaria production, the symptomatology of typhoid may be somewhat influenced by the prevailing malarial poison I repeat, *may be*, for, as I shall presently show, typhoid is a *continued* fever, in a certain narrow and conventional sense, only.

The word *typho-malarial*, was made originally by Dr. J. J. Woodward to express his conception of a composite fever. The opinion as to its character entertained by Dr. Woodward has been expressed in his work on Camp Diseases (*Outlines of the Chief Camp Diseases of the United States Armies*, Philadelphia, 1863). On page 202, he says, referring to the morbid anatomy of Peyer's patches, "certain peculiarities cannot fail to strike the anatomist, which are often sufficiently distinctive to enable him to recognize typho-malarial fever by the post-mortem appearances alone." Again, on page 211, he styles it a "new hybrid"—in other words, a cross between typhoid and malarial fever.

Dr. Woodward admits that this view was not accepted by all the medical officers of the army (p. 210). In a paper read before the Medical Section of the International Medical Congress, in 1876, he could name but two opponents of his views—I quote his own words: "Dr. Roberts Bartholow, formerly an Assistant Surgeon in the Army and now a successful practitioner in Cincinnati;" the other "Dr. Jerome Cochran, of Mobile," formerly "a Surgeon in the Confederate Army." If there had been opinions or observations in contradiction of those expressed by Dr. Woodward, certainly only mine had been given formal utterance. My paper in opposition to the specific claim of Dr. Woodward, appeared in the medical volume issued by the United States Sanitary Commission soon after the close of the war. (*Memoirs of the United States Sanitary Commission*, New York, 1867.) In this paper, which appeared soon after Dr. Woodward's views had been published, I maintained that he was in error in supposing that the morbid anatomy of typhoid presented any peculiar features in consequence of a malarial complication. It was not until ten years afterwards, in 1876, that Dr. Woodward retracted the opinion he had at one time expressed, and then not through the official channel, but in a paper to which I have referred, which he read before the International Congress.

I maintained that as populations increase, typhoid supplants malarial fevers; that during the transition period a mixed fever prevails, a typhoid with a malarial complication, but that the morbid anatomy of typhoid remained always the same, and was not modified as claimed. Dr. Woodward, finally admitted this in the following language: "During my earlier studies I believed that I had observed certain peculiarities in the character of the ulcers in these cases, by which they might be distinguished from the lesions of simple typhoid. A larger experience . . . has convinced me that this opinion was premature. I renounce it as erroneous. There is really nothing in the lesions of Peyer's glands, in these cases, to distinguish them from ordinary cases of typhoid fever." (*Transactions of the International Medical Congress of Philadelphia*, p. 332.) On the next page to that from which I have just quoted, I find this question, and answer: "Is typho-malarial fever a special type of fever? and I reply, unhesitatingly, that it is not." We may then ask, if it is not a special type of fever, why give it a special designation? During the war a scorbutic taint, crowd-poisoning, overwork, affected the constitutions of men, and hence so far typhoid fever was modified by them. Should we not then have a special form of typhoid and a special name for such specimens of the malady? To such a *reductio ad absurdum* do we come by adopting this view.

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[1] Read by invitation before the Medical Society of Berks County, and neighboring County Societies, in May last, at the City of Reading.

In regard to the manner in which a malarial infection may modify typhoid fever, there is one source of erroneous observation, in an especial degree responsible for the prevailing misconception. That is—the thermal line of typhoid. Having the notion of a continued fever fixed in the mind, practitioners are too apt to forget that there are distinct remissions and exacerbations of the body heat in every case. There are diurnal variations corresponding to, but in greater relative proportion than the normal. In other words, typhoid fever is, properly speaking, a remittent fever. The likeness to the malarial remittent is all the greater, since in every fully developed case of typhoid, sweating is a pronounced symptom. The differentiation is the more difficult during the first week, since in some cases of typhoid there is constipation, and in some cases of remittent, diarrhœa. In the former, gurgling in the right iliac fossa may be wanting; in the latter, it may be present. A therapeutical means of differentiating, much relied on, may be misleading—I refer to the use of antipyretic doses of quinine—for a distinct reduction of temperature will be effected in both instances by the exhibition of massive quantities. I do not mean to infer, however, that the subsequent influence of the antipyretic will be the same in both diseases.

I fear that the misconception thus originating has vitiated the returns made to the Surgeon-General to such an extent as to render any conclusions drawn from them very misleading. This is the more to be regretted since the volumes containing the medical history of the War of the Rebellion, will have the authority of the Government.

Dr. Woodward, the author of the term typho-malarial fever, having abandoned the original claim as to its solidarity, it may be well now to try to indicate the real relation of the two elements composing the mixed fever.

First, as to the term typho-malarial. This is an unfortunate designation, for it implies the existence of a malarial fever into which the typhoid enters as an essential element. There is a total absence of proof that such a condition exists. Who has seen the morbid anatomy of malarial fever into which had been projected the changes peculiar to typhoid? It has already been shown that the changes characteristic of typhoid are in no respect modified by malarial poisoning. If then the typhoid poison or germ is received into an organism infected by the malarial poison, it undergoes development in accordance with its own laws. So completely does it dominate the situation that the action of the malarial poison ceases. The term *typho-malarial* is, therefore, a complete misnomer, a misleading phrase, which should be abolished from our nosology; and should no longer appear in our text-books.

Second, as to the supposed hybrid. I much doubt the existence of a typhoid fever, whose symptoms are modified by a malarial fever. Indeed, there are reasons for believing, that in a certain sense an antagonism exists between the two, so far, that in the presence of the typhoid poison, the malarial ceases to be active. I have already given a reason for the belief that the remittent character of typhoid has been a cause of error. At the beginning of the fever, and also during the last week, the remissions and exacerbations are so well marked as to be very confusing. I have always held that the thermal line of typhoid might receive an impression from a coexisting malarial complication,—might, therefore, become more distinctly remittent, but further experience has weakened this belief. If the morbid anatomy of typhoid is not thus affected, why the symptomatology? Examined anew in the light of a wider experience, I have been conducted to the conclusion that the modification in the thermal line, snpposed to be due to a malarial complication, has, for the most part, no real existence.

The action of quinine in typhoid fever, and in pseudo-typho-malarial. A further reason for believing in the entire autonomy and independence of typhoid is the failure of quinine to lessen the duration of the supposed hybrid, or to effect more than a transient reduction of temperature. It does not appear, indeed, that quinine acts in any respect differently on typho-malarial fever, than on typhoid. A massive dose effects a reduction of temperature, and in so far as lessened body heat mitigates the severity of the fever, quinine exerts a beneficial action; but that it cannot arrest the disease, or shorten its duration, is absolutely certain. Over and over again has the attempt been made, to cut short typho-malarial fever by heroical doses of quinine; over and over again has failure terminated these efforts.

I must here again point out how an error of diagnosis so often confuses the judgment of practitioners. I have already indicated how many cases of typhoid bear a superficial resemblance to remittent fever. The converse error is even more misleading. The more intense the malarial poison, the more nearly the resulting fever approaches the continued type. The order of form is well known; tertian, quotidian; remittent, of tertian, of quotidian type. If the poison be sufficiently intense, the quotidian remittent presents a thermal line closely approximating typhoid. Who has not heard of a remittent fever assuming the typhoid state?

I need not say to those here present that a "typhoid state" is far from the typhoid fever. If the nature of a remittent fever with quotidian remissions and exacerbations, is not understood, and sufficiently energetic doses of quinine administered to break it up, the typhoid state is presently assumed. This misunderstanding may readily occur if the history of the case is unknown and its development not watched from the beginning.

When I reported for duty at Fort Leavenworth, Kansas, in 1857, I saw for the first time those deadly malarial fevers which occur in the Missouri River bottom-lands. If such cases had fallen into my inexperienced hands, the most of them would have passed into the typhoid state. Fortunately for the patients and for my future usefulness, the Surgeon in charge of that great military hospital was Dr. John M. Cuyler, of the Army, a physician of great experience, familiar with the practice, then but little known, of massive doses of quinine. To my astonishment, his practice consisted in the administration of a single dose of thirty grains on the first day, twenty grains on the second, and fifteen grains on the third, by which time the fever had practically ended. He indulged in no preliminary skirmishing, no tentative experiments, but well-directed blows with doses that went to their object with unerring precision, were delivered.

Until recently I had supposed that these large doses of quinine, in the treatment of malarial fevers, had been introduced by our army surgeons, as claimed in Coolidge's Army Medical Reports of 1854. In Fenner's *Southern Hospital Reports*, there are several references to this practice in the Southern States. I owe to my friend Prof. W. T. Howard, M.D., of Baltimore, a reference to this practice of still earlier date. In the *Traité Anatomico-Pathologique des Fièvres Intermittent, Simple et Pernicieuses*, Paris, 1825, doses so large as forty grains are recommended in malarial diseases. For sixty years, therefore, it has been known that the severe forms of malarial fever tend to assume a low or typhoid state, unless energetically handled by heroic doses of quinine.

There still remains an answer to the question, What is the nature of the influence exerted by the malarial poison on typhoid fever?

For the reasons above given, it appears to be probable that when the typhoid germ begins its development in the body, the phenomena caused by malarial infection, if it exist, subside. I have held that the only modifications in the symptoms which occur, are the changes in the thermal line, the more pronounced exacerbations, and remissions, the greater excursions of the temperature. I am by no means sure that this opinion is correct. The source of error is so obvious, and mistake is so easily made, that it can hardly be doubted it often occurs.

If the malarial poison remains in abeyance during the predominance of the typhoid action, there comes a time when it asserts itself. After the typhoid infection has spent its force, there occurs an intermittent, which may greatly prolong the convalescence if not recognized and effectively treated. In my experience, this intermittent succeeds to the typhoid in all cases, in which a really active condition of the malarial poison exists. In the absence of such manifestation, we may well doubt that a malarial complication enters into the morbid complexus. Where the patient is simply affected by that which is styled "chronic malarial poisoning," the influence is insufficient to modify the typhoid process to an appreciable extent. If, however, the malarial infection is active, during the sway of the typhoid fever, it is either overpowered, or, at most, merely increases the daily thermometric range; but as the typhoid process subsides, then the malarial comes into play, and we have a convalescence interrupted or protracted by an intermittent or remittent fever. Often, indeed, have I witnessed these phenomena. I may now close my rather hasty observations, with a sentence from Woodward's paper read before the International Medical Congress at Philadelphia:

"And this brings me at length to answer the question—Is typho-malarial fever, a special type of fever?—and, I reply, unhesitatingly, that it is not." P. 333.

ON THE MALIGNANT METAMORPHOSIS OF DISEASED TISSUES.[1]

BY THEO. A. MCGRAW, M.D.,
OF DETROIT, MICH.

THERE are inherent difficulties which make it impossible for even the most experienced surgeon to attain to a uniform success in the diagnosis of tumors. Swellings of the most diverse character frequently present exactly similar symptoms. Normal enlargements even may simulate those which are morbid, and it often happens that the practitioner has to wait for time to develop those differences which alone can make a diagnosis possible. These difficulties arise in a large measure, it is true, from the general likeness of all immature tissues, but there are, besides, others which spring from the tendency of one form of disease to develop into another, or, at any rate, to afford the stimulus which calls that other into being. Thus it has long been noticed that inflammatory and syphilitic deposits precede and perhaps cause the development of cancers and sarcomas, while benign growths not infrequently become malignant. The general practitioner, who necessarily deals but little with this class of diseases, in his anxiety to form a definite diagnosis is apt to forget that mature's boundaries are rarely definite, and that her outlines are often hazy. I propose in this paper to call attention to the practical bearing which these transitional forms of disease have in causing errors in diagnosis. My last winter's practice has indeed afforded an abundant supply of material with which to illustrate this phase of the subject.

Last summer, as I was about to leave Detroit on my vacation, a man thirty-three years of age consulted me about an indurated ulcer of the right side of the tongue, as large as a silver half dollar and involving the whole thickness of the organ. He had a syphilitic history of seven years' standing, and had had the affection of the tongue for one year. A competent surgeon at his home had, as I think correctly, diagnosticated the disease as syphilitic, and treated him accordingly. I could just feel on the right side of the neck over the carotid artery, a little swollen gland. I deferred all operative treatment until my return and put him on daily doses of iodide of potassium of forty grains, and had him apply iodide of potassium ointment to his neck.

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[1] Read before the Michigan State Medical Society, at its Annual Meeting, 1884.

On my return, three weeks afterwards, I found the tongue in the same condition, but the cervical glands had greatly increased in size. I operated soon after by splitting his tongue in half and removing the diseased portion, and then by dissecting the enlarged glands carefully away from the carotid and jugular sheaths, to which they had become attached. The patient rallied rapidly from the operation, and his tongue was soon well. Not so, however, his neck, for from it there grew a most malignant fungous mass, which in three months ended his life.

Now, here was a case, as it seemed to me, of the undoubted transformation of a syphilitic deposit into a cancerous tumor, and a good surgeon had failed to grasp the reality of the case from an unwillingness to credit a malignant tendency to a specific disease.

A similar case, which I treated for a short time over a year ago, occurred in the person of a married lady who came to my office with a most ugly looking ulcer of the tongue. After a cautious inquiry into the history of the case I concluded it was syphilitic, and put her upon large doses of iodide of potassium. I had in mind a system of treatment which, beginning with a strict antisyphilitic course of medicines, should be followed subsequently, if this failed, by thorough excision.

The ulcer indeed looked to me to have already become cancerous. She came, however, but once or twice, and when I heard of her again she was under treatment by Prof. McLean.

She had in the meantime gone to the Hot Springs, Arkansas, and there had been put on iodide of potassium at the rate of seventy-five grains a day. A temporary improvement followed this treatment, but it was only for a short time. Dr. McLean tells me that when she applied to him the case had become hopeless. The ulcer had eaten into the floor of the mouth, the surrounding tissues had become all molten together, and the neck was full of swollen glands.

She ultimately died of hemorrhage from the lingual artery which had become involved in the general destruction of tissue. In this case, also, I believe that an early and thorough excision would have saved a human life.

Soon after this experience, a poor fellow entered my office with a most undoubted sarcomatous growth of the right upper jaw. He was not yet thirty years of age and had had syphilis, but there could be no doubt that this was something more than syphilis. The jaw was greatly enlarged, the right nostril was closed with a fungous mass, the post-nasal spaces were blocked up with the growth, and the roof of the mouth depressed. It had progressed, in fact, beyond all possibility of an operation, and yet his physician from the wilds of the northern part of the lower peninsula, wrote to say that I must be mistaken in my diagnosis, as the man was undoubtedly syphilitic.

Whether the previous syphilitic affection in this case had any causal connection with the tumor I cannot positively say, but this seems to me certain, viz., that maglignant growths frequently spring from specific degenerations. Practical surgeons have to bear this fact in mind before shutting out a diagnosis of cancer on account of a previous syphilitic history.

I have had three cases of the transformation of tumors, apparently innocent, into highly malignant neoplasms. Two of these cases were moles which had been irritated by the application of caustics. Every surgeon is aware that moles are prone to malignant degeneration, and yet the actual occurrence of the change is sufficiently rare to make such cases worthy of record.

The first case was that of a fine, young man, not yet twenty-two years of age, who was sent to me by my friend, Dr. Small, of Saginaw. Some three months before a congenital mole had been irritated by his collar, and afterwards touched with caustic by a local surgeon. The resulting sore never healed, but became the seat of a rapidly growing melanotic fungus. This was finally excised, but when I saw him one month afterwards, it had recurred not only as a local growth, but also as a metastatic glandular affection. As a forlorn hope, I operated and removed as thoroughly as possible all apparent disease. The operation left a raw space as large as the palm of the hand in the back of the neck and a deep excavation in the subclavian triangle. The patient recovered without any difficulty from the operation, and in a few days was up and about. The operation was performed on Nov. 7, and so rapid was the recurrence that on Dec. 14, the patient, who had left the hospital, except for this cancer in good and robust general health, succumbed to the infection.

The second case was in the person of a man, twenty-six years old, whose home was in Imlay City. He was admitted to St. Mary's Hospital on January 3. Two years before a mole on the upper part of the right forearm had been irritated and finally destroyed with caustic. A year and a half afterwards, a tumor was observed on the lower part of his right arm, which was imperfectly extirpated by a local surgeon, after it had grown to the size of a hen's egg.

The wound never healed, and became the seat of a rapidly growing secondary tumor.

Some infected glands could be distinguished in the axilla, which in three days grew very perceptibly in size.

On Jan. 7, I amputated the right arm at the shoulder-joint, and removed a large mass of glands from the axilla.

This patient recovered and went home, but on May 20 returned with a new lump in the axilla, which I removed on the following day. He is now recovering from this latter operation, and anxiously debating whether he has yet escaped his enemy.

The first of the tumors proved to be a round-celled sarcoma. The second, a spindle-celled sarcoma. They may serve as a warning to such practitioners who recommend the destruction of moles by mild caustics. I would not myself use any caustic whatever for a mole, preferring the safer method of excision, but he who uses a caustic for such purpose should choose one of the strongest, such as could destroy at one application not only the tumor, but also some of the underlying tissues. I am firmly convinced that not only in these cases, but also in cases of epitheliomata of the face, mild caustics, which reach only the superficial layer of cells, often do frightful damage. The lower strata, stimulated into activity, grow into the depths more rapidly than the caustic can penetrate, and a tumor, whose power for evil may have been but latent, suddenly develops a dreadful malignity. I do not mean, of course, to say that every irritated mole turns into a cancer, but who would take any chances when such possibilities lie before him?

Another patient, in whom I have this year had the sorrow to witness the transformation of apparently simple growths into highly malignant tumors, was a woman of some forty-one or forty-two years of age, whom I examined carefully two years ago for enlargement of both breasts. She had then noticed for several months growing tumors, which had attained, when I first saw her, to the size, in the right breast, of a hen's egg, in the left, of a large walnut. They seemed to be cystic, and, when I punctured them, I was able to collect about two ounces of a reddish-brown fluid. The microscope revealed in the fluid a few shrunken cells, some blood corpuscles, more or less altered, and granular matter. After the puncture, the walls of these cysts collapsed so completely that it was then difficult to find any abnormal swelling whatever. There were no perceptible indurations or nodosities. I came to the conclusion that the trouble was cystic and innocent, but requested the patient to call from time to time for examination. I saw no more of her for two years, until about six weeks ago she came to me again with both breasts the seat of extensive and unmistakable scirrhous cancer. The disease had reached an incurable stage, and my too favorable opinion had caused the loss of that golden time when a cure might have been possible. I have my own theory about those cysts of the breasts which occur in the persons of middle-aged women. They occupy dilated ducts, and may be classed with retention-cysts. Now, according to Cohnheim, there are two elements essential to malignancy. The first is the aggressive growth of certain groups of cells. The second is the loss of resisting power in the neighboring tissues. Cancer of the breast begins in the acini or the smallest lacteal ducts by the riotous proliferation of epithelium, but becomes cancer only when this epithelium has succeeded in forcing its way into the connective tissues immediately adjacent. If now this growth takes place, but the connective tissues sturdily resists its encroachment, the cell will eventually die and accumulate in the distended ducts. Their presence causes irritation, and the secretion of more or less fluid. Cysts form then which contain only such fluid and the débris of cells, and are apparently simple. At a later stage, however, the connective tissue becomes more atrophied with advancing age, and yields to the epithelial pressure. We have then the development of malignancy in growths which we had fondly believed innocent. I have been long suspicious of certain of these so-called retention-cysts, but have never until now had so marked an example of their dangerous tendency.

Of all complications, which are apt to mislead the surgeon in his judgment of abnormal swellings, the advent of tumor in inflamed and injured parts is the most deceptive.

By one of those curious coincidences which occur so often in practice, one physician was able to send me, almost together, two cases of sarcoma of the femur, in both of which a history of hurt and subsequent inflammation had deceived a most competent practitioner as to the true nature of the case.

Charles Coots, aged 24, had been in good health until last September. He was employed in a planing mill, and, while at work, sat at a table on which a wheel was turned by means of a leather band, which passed into the room below through an opening in the floor.

The constant draught of air through this opening, and the occasional rubbing of this band, caused an intermittent pain and soreness in his left knee. This became so severe that he was finally compelled to quit work and keep the house. He was treated for inflammation of the knee-joint for several months, and the fluctuations between apparent improvement and exacerbation of trouble seemed to establish the correctness of this diagnosis. On Jan. 10, 1884, he fell, and afterwards grew rapidly worse. It became evident that the case was one other than that of simple inflammation, and I was sent for in counsel. I advised amputation, and performed it at St. Mary's Hospital on Feb. 27, before the students of the Detroit Medical College. The patient was much reduced at this time, and I amputated between the middle and upper thirds of the thigh. I had reason soon to regret that I had not operated at the hip-joint, for a close examination of the stump showed numerous black points in the medulla of the bone, due to the presence of pigmented cells, although the soft parts seemed perfectly healthy. This demonstration of the greater speed with which the infection of tumors travels in the medullary cavity of bone than in the surrounding flesh was very instructive, as showing the folly of amputating in such cases through the bone. I believe that the rule ought to be universal, where the bone is involved, to disarticulate at the joint above. The patient was too weak for any further operative procedures, and he was left to recover from the operation with the certainty that subsequent amputation would become in time a necessity. The femur in this case was found to be the seat of an enormous melanotic sarcoma, which had involved the knee-joint, and almost entirely destroyed the lower part of the bone.

The second case of this kind occurred in the person of an old soldier, W. E. Lerrick, who had received a shell wound in the left knee during the late war, and had ever since suffered from lameness and stiffness of the joint. As the result, apparently, of a slight injury received about a year ago, the knee began to pain him again, and get hot and swollen. The diagnosis of inflammation was naturally made, and for many months he was treated with various antiphlogistic measures. He was finally sent to St. Mary's Hospital, where he arrived on March 14, 1884. He had then an enormous tumor involving nearly the whole thigh, and ulcerated at the knee. No enlargement of the lymphatics could be detected. As a last resort, on March 17, I amputated at the hip-joint. The tumor proved to be a white round-celled sarcoma, and I was able to show by sections of the bone, as the trochanters, that the whole bone was involved in the disease. The patient is nearly recovered, and left for his home on June 10, a small sinus still leading into the cavity of the acetabulum. Now, in these two cases, I think that the most experienced surgeon would have been liable to mistake the nature of the trouble in the beginning, and every practitioner knows how difficult it is to escape from a prejudice when once it is formed. It has been said that any inflammation may prove infective, and I have had very many cases in my own practice in which cancer has seemed to graft itself upon inflammatory tissue. Whether the two which I have related were of this kind, or whether they were from the beginning cases of mistaken diagnosis, it would indeed be hard to decide.

I have just performed a palliative operation upon a woman for a large cauliflower growth of the uterus, which was discovered six months after childbirth. These cases are so common as to fall within the observation of every gynecologist of large practice, and are attributed by many to cervical rupture, the raw surfaces of which become irritated and covered with granulations, the cellular elements of which, instead of undergoing cicatrical contraction, multiply enormously, and acquire a property of infection. Whether this be so, or whether they spring from some minute placental remains or from residual fœtal cells, this much is true, that such growths follow close upon processes, which, if not altogether normal, would nevertheless have an entirely different result in by far the large majority of cases. It is by no means the only class of cases in which granulation-tissue is the starting-point of cancer, but it will serve here to good purpose as an example, because such tumors are often overlooked in the early part of their history, their peculiar symptoms being masked by those sequelæ of childbirth which cause sometimes for months morbid discharge from the uterus and vagina.

As regards the diagnosis of these cases, in which morbid tumors are suspected of forming in otherwise diseased tissues, I must confess that I know of no criterion by which we can render ourselves sure of our diagnosis in the early and transitional stages. The microscopic examination of a few detached cells gives but an uncertain and doubtful result. The examination of any large mass of tissue can be done only by an exploratory operation, which to most patients would seem as formidable as the radical operation, and we need to satisfy ourselves of the diagnosis before urging the patient to such severe measures. I have frightened some patients away even by proposing an exploratory puncture with a small needle. The fact is, time is the great solver of many of these diagnostic riddles, and if surgeons only guard themselves against those prejudices which fix themselves in the mind after a false diagnosis has once been formed, errors in opinion may often be rectified in time to operate efficiently and thoroughly. Ulcers which are persistent in places where ordinary ulcers ought to heal, syphilitic sores which resist the appropriate treatment, cysts which refuse to heal after the evacuation of their contents and destruction of their lining membranes, uteri which continue to discharge blood and débris an undue time after delivery, all ought to awaken suspicion, and incite the practitioner to the most thorough examination. If then the cause remains doubtful, the patient ought to be given the benefit of the doubt, and those severe and radical measures used which would be applied in cases of pronounced cancer.

DIRECT APPLICATION OF THE GALVANIC CURRENT IN SALPINGITIS.

BY HORATIO R. BIGELOW, M.D.,
OF WASHINGTON, D. C.

I WISH to call attention to what may be considered a unique case in gynecological therapeutics. It is not sufficient of itself to establish any definite principle, although it may lead up to such investigation as shall place this procedure upon a logical basis.

I have had under observation for many months a case of oöphoritis and salpingitis that made but slow progress under the systematic treatment of electricity, massage, Turkish baths, and graded muscular exercise, that I always resort to in these conditions. The usual symptoms were well marked—objective and subjective. The sound passed easily and for quite a distance up the right tube. Menstruation was irregular, painful, scant, and altered in character. It was perhaps a suitable subject for Tait's operation, but we cannot all hope for the brilliant results of that eminent surgeon, and I have already expressed my views upon oöphorectomy, as well as upon the general management of oöphoritis.

I had previously seen excellent results from the galvanic current; one electrode (negative) being pushed well up into the vagina, while the other was applied externally over the location of the ovary. It seemed to me that an insulated electrode of the size of the ordinary uterine sound, might easily be carried into the tube, quite as easily, indeed, as the sound itself, and that the negative current might alter the entire catarrhal condition of the membrane, setting up a new action—a reparative one—within the tube itself, and that this influence might be transmitted well up to the ovary. At all events, it was an experiment worth trying. I knew from an extended use of electricity in the diseases of women, that both currents were well tolerated by the sexual apparatus; indeed, the uterus is only slightly susceptible, less so than any other part of the body.

I had made an electrode of the same dimensions as my uterine sound—insulated—and terminating in a bulbous metal expansion. This was carried without the least difficulty well up into the tube and was made negative. The positive electrode was pressed over the external parietes in the location of the ovary. I began with a current strength of five milliampères, continuing the application for three minutes. The positive electrode was small, and pressed firmly down. The patient made no complaint; on the contrary, she confessed to a feeling of satisfaction at the sense of warmth. I made applications twice a week, varying the strength of the current, but never beyond twelve milliampères. She always felt better after each séance, and now, after three months of this treatment, is really radically better. She has little or no pain; the menstrual function is accomplished quite naturally, and the enlargement of the tube is constantly growing smaller, so that it is now impossible to admit the sound.

May it not be possible that we have here such a powerful alterative remedy, as will relegate to cystic and well advanced degenerative changes only, the necessity of the surgical operation?

HOSPITAL NOTES.

CINCINNATI HOSPITAL.

Service of N. P. Dandridge, M.D.

(Reported by W. H. Wilder, M.D.)

EXTRACTION OF A BULLET FROM THE URETHRA; TWO CASES OF EXTERNAL PERINEAL URETHROTOMY.

Frank Stark, colored, groom, aged twenty-six, well developed, was admitted to the Cincinnati Hospital December 17, 1883. Says he contracted syphilis four years ago, and gonorrhœa, for the first time, eighteen months ago—recovering from the latter trouble rapidly. He remembered that on a certain day, about one year previous to his admission, he suddenly found himself unable to micturate, and consulted a physician, who introduced a catheter and also prescribed certain medicines, from which, he says, he derived no relief.

Since that date he has been unable to void his urine in a full stream, but it escapes from him in drops, and any attempt at micturition is accompanied by severe pain. When admitted, the bladder was distended, and the patient complained of some pain and uneasiness.

An unsuccessful attempt to introduce a small rubber catheter having been made, he was ordered a hot hip-bath, gr. x pulv. ipecac. comp., and rest in bed.

The next morning, Dec. 18, he was feeling much better, having passed urine more easily than before. The urine was alkaline, and contained an abundant deposit of phosphates, and very tenacious viscid mucus, with some pus.

Dec. 19.—He said that the obstruction appeared very suddenly, and that the day before he first noticed it he had been able to pass a good-sized stream. On introducing a sound, a hard body was struck, about four and a half inches from the meatus urethræ, which gave the click of a stone when touched by the steel. This foreign body could be felt as an irregularly shaped point of induration, at the peno-scrotal angle.

20th.—Dr. Dandridge attempted to extract the foreign body with forceps, but it was so firmly held that it was necessary to make an incision along the median raphé at the junction of the penis and scrotum down to the point of a sound which had been introduced into the urethra, and which was pressing upon the point of obstruction. A leaden bullet, about $\frac{42}{100}$ inch calibre, considerably flattened and indented, nearly covered with urinary salts, and firmly embedded in the tissue of the urethra, was removed with some difficulty. After the operation, a No. 16 English sound was easily passed into the bladder; the wound was dusted with pulv. iodoform, and the patient ordered to remain quietly in bed.

In the evening of the same day, the pulse was 96, temperature 100½°, and the patient very cheerful. At that time he related an incident which threw light upon the presence of the bullet in the urethra. In 1870, he received a pistol shot in the left groin, and although careful search was made for the ball by several surgeons, it was never found. A small circular cicatrix, about one inch below the middle of Poupart's ligament of the left side, indicated the point of entrance of the missile; and several scars, about an inch in length, on the inner and posterior surfaces of the thigh were evidences of fruitless exploratory incisions for extracting the same.

26th.—Pulse 72, temperature 99°. Complained of some pain in scrotum, which was slightly swollen. A suspensory bandage was ordered, and the iodoform dressing continued. Patient was instructed to micturate in the knee-elbow posture, at the same time raising the scrotum from behind, to prevent as far as possible any gravitation of the urine into the tissues of the scrotum.

31st.—No. 14 English sound was passed into the bladder. Patient was improving rapidly. This sound, No. 14, was passed daily until the date of his departure. When discharged, on January 19, 1884, the wound had nearly closed. Micturition took place entirely through the penis, and the patient was feeling well.

Remarks.—I can find no case on record in which a missile of any kind having entered the bladder, has subsequently become impacted in the urethra. In the *Medical and Surgical History of the War of the Rebellion*, Part II., surg. vol., there is a record of twenty-one cases of vesical calculi consequent upon shot wounds of the bladder. Thirteen of these calculi had developed around a missile, such as a bullet or fragment of a shell, this acting as a nucleus; and small fragments of bone, cloth, or hair had constituted the nuclei around which the other eight had formed. None of these entered the urethra, probably on account of the large size of the bullets or fragments; and all were removed by lithotomy operations. There are on record five cases of individuals who received gunshot or pistol-shot wounds of the bladder who subsequently passed the bullet through the urethra. Three of these cases are quite ancient, having been cited by Elscholtz, in 1693; Thomas Bartolinus, in 1680; and Mangther, about 1721. The other two were reported, in 1855, by Dr. C. D. Stickney (*Boston Med. and Surg. Journ.*), and, in 1867, by Assistant Surgeon J. V. Lauderdale (surgical volume of the *Medical and Surgical History of the War of the Rebellion*). In these cases, the balls were small enough to escape through the urethra during a forced attempt at micturition. The passage of small fragments of bone by the urethra after gunshot injuries of the pelvis and bladder was much more common in the late war; and in one case, some bone-fragments, which had become impacted in the deep portion of the urethra, were extracted by Dr. Thomas G. Morton by perineal section.

In the case of Stark, the obstruction had evidently existed for over a year, with severe vesical tenesmus and painful micturition; but how long the foreign body had been impacted in the position where it lay could not be determined.

Its jagged surface had caused it to become firmly embedded in the mucous membrane, and the irregular surfaces left space for the urine to trickle past the obstruction.

After introducing the sound, the thought of the presence of an impacted vesical calculus was entertained, and an attempt was made to crush and remove it with forceps; but, this failing, removal of the foreign body through an incision became necessary.

It seems evident, in this case, that the bladder was not perforated originally by the shot, for no manifestations of vesical trouble appeared prior to a date about one year before his admission to the hospital, but that it subsequently entered by a process of ulcerative absorption, having probably worked its way through the loose connective tissue of the pelvis to a position alongside the bladder-wall.

Had there been made a proper examination when he first complained of vesical symptoms, the discovery of the foreign body would have followed, and a lithotomy operation would have accomplished his relief. Although a linear incision through the corpus cavernosum into the urethra is not likely to cause a constriction of that canal after the wound has healed, yet, in this case, we can reasonably apprehend a form of traumatic stricture, owing to the lacerated condition of the urethra, caused by the pressure of the jagged body.

MEDICAL PROGRESS.

THE TREATMENT OF STRICTURES OF THE ŒSOPHAGUS.—PROFESSOR J. HJORT, of Christiania, read a paper on this subject at the International Medical Congress at Copenhagen, in which he concluded that:

1. In cases of cicatricial stricture of the œsophagus —even in its upper part—impermeable to instruments, gastrostomy *en deux temps* is indicated; and then to treat the stricture, through the fistula, by means of electrolysis, as has been successfully done in one case.

2. It is also probable that the treatment by electrolysis should replace internal œsophagotomy in cases of cicatricial stricture, still possible for a small sound.

PHOSPHATED PEPTONES IN OBSTINATE VOMITING OF PREGNANCY.—DR. A. JUDET calls attention to the necessity of administering phosphate of lime in pregnancy and during lactation. This is particularly indicated when the father or mother has a scrofulous diathesis. By its action it is an element which meets the drain upon the osseous system of the mother; and being an excitant of nutrition it causes assimilation of the albuminoids, thus fortifying, in a measure, the organism and placing the mother in the best conditions for furnishing without fatigue the proteic elements necessary for the development of the fœtus.

He reports the case of a woman, twenty-seven years of age, who was having attacks of uncontrollable vomiting, being in the third month of utero-gestation. Chloral and valerianate of caffeine gave only temporary relief. Phosphated peptone in an infusion of bitter orange-peel was then given, six teaspoonfuls of the former being given during the day. After slight symptoms of intolerance, this was well retained and the proportion was gradually increased to twelve teaspoonfuls a day, this being the only food taken. This exclusive regime was kept up for five days, after which she began to take small quantities of other food. The peptone was continued in doses of two to four teaspoonfuls a day not only during pregnancy, but during the whole time of lactation. Digestion, which after all former pregnancies had been painful, was now performed in a normal manner. In previous pregnancies she had been unable to nurse her children, but she nursed this child during the full period, and its dentition was much earlier than that of any of the others.

It should be remarked that there are differences in phosphate of lime, and it should be carefully selected, and furthermore it is assimilated with ease by the system only when combined with a nutrient proteic substance. Peptone and phosphate of lime make a very rational and *physiological* preparation for building up the osseous and muscular systems.—*Gazette Hebdom.*, August 8, 1884.

TWO CASES OF MYOMOTOMY.—E. BIDDER reports (*St. Petersburgher med. Wochenschr.*, 1884, N. F. Jahrg. I., No. 1) two cases in which he has performed this operation. The first case, in which laparotomy was performed by Schröder's method, easily recovered. In the second case, there was a tumor of the posterior cervical wall, which reached over an inch above the symphysis. The body of the uterus, of normal size, was on the anterior portion of the tumor. The tumor was removed *per vaginam*. After slitting the anterior lip of the cervix, a wedge-shaped piece was removed from the tumor, the base of which formed the posterior lip. The vagina was then packed with iodoform-gauze. During the course of the next week, the tumor sank into the vagina, and became partially freed from its capsule, filling the vagina as completely as would a child's head. On the twelfth day, it was removed with the fingers. An hour after the removal, tolerably free hemorrhage set in, which was controlled by a tampon. Recovery took place quickly, and without fever.

The tumor was six inches long, and a little over three inches wide, and about the size of a child's head. From the ease with which this tumor was enucleated, Bidder advises that these tumors be removed through the vagina whenever possible.—*Centralbl. f. Chirurgie*, August 2, 1884.

EXTIRPATION OF THE UTERUS THROUGH THE VAGINA.—DR. E. KUFFERATH, of the University of Brussels, reports, with a general consideration of the subject of extirpation of the uterus, the case of a woman, forty-five years of age, from whom he removed the uterus by the vaginal method. The disease was of two years' duration. The wound was completely cicatrized six weeks after the operation, and the patient seemed perfectly well for four months and a half, when infiltration again appeared.—*Annales de Gynéc.*, July, 1884.

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SATURDAY, SEPTEMBER 13, 1884.

ARSENIC IN MALIGNANT LYMPHOMA.

THE treatment of malignant lymphoma or lymphadenoma, which should not be confounded with sarcoma of the lymphatic glands, is most disappointing, as the disease almost invariably continues to progress until death ensues from sheer exhaustion. Now and then a cure follows extirpation or the parenchymatous injection of tincture of iodine, hyperosmic acid, or Fowler's solution; but the local and internal administration of arsenic, which was brought prominently into notice by Winiwarter, in 1875, and is so much vaunted by many surgeons, has afforded so little satisfaction that it is rarely resorted to out of Germany.

Attention has again been called to the arsenical treatment of this class of morbid growths by KAREWSKI, in a paper read before the Berliner Medicinische Gesellschaft, and published in the *Berliner klinische Wochenschrift*, Nos. 17 and 18, 1884. Of the four cases, three are recorded as cured, and one as improved, there having been freedom from recurrence for four years in one, and twenty-nine months in two. In the first, the pharynx, and the cervical and axillary glands were affected; in the second, the tonsils and the glands of the neck, axillæ, and groins were the seats of the disease; while, in the third, in addition to the tumors designated in the second case, the liver and spleen were greatly enlarged, and the patient was suffering from diffuse bronchial catarrh. In the first and third cases, the remedy was employed hypodermatically and by the stomach, and in the second, by the stomach alone. After a few injections the tumors began to diminish in size, and the diminution went on so rapidly that in from six to eight weeks glands of the volume of a hen's egg were reduced to that of a cherry. Not only was this good result witnessed in the tumors injected, but also in distant growths, the tonsils resisting the influence of the remedy longer than the other glands.

In the discussion which followed the reading of the paper, ten additional cases were reported by Güterbock, Küster, Heymann, and Grunmach, which tend to demonstrate that the prognosis of malignant lymphoma, when subjected to the arsenical method of treatment, is not so bad as it is usually regarded. There can be no doubt that in the fourteen cases life was prolonged, but whether a final cure resulted is quite another question. In three of the fourteen there was recurrence of the disease, and the reports would have been far more conclusive had the time that had elapsed after the so-called cure been recorded. As we have seen, the patients of Karewski remained well, *with a persistent slight enlargement of the affected glands*, for three years, on an average; but, as examples of recurrence after two years and more have been recorded by Winiwarter, Zesas, and others, not a a single one of the cases here noticed can be said to be safe from recurrence.

Our own experience with the disease indicates that there is no tumor which recurs so surely after extirpation, or the arsenical treatment, or which is so surely fatal, as the one under consideration. Hence, we are disposed to accept these cases not as cures, but merely as prolongations of life. From the influence exerted by arsenic upon the primary and recurrent growths, we are of the opinion that malignant lymphomata should, when practicable, be excised, and recurrence be guarded against by the administration of Fowler's solution by the mouth.

THE ETIOLOGY OF INFLUENZA.

NOTHING in medicine has more completely set at naught the vaunted investigating power of man than the cause of influenza. Its very name, now adopted by common consent out of a host equally vain, originally denoted its supposed mysterious nature, and the uselessness of scientific effort to find out by searching its cause. The elders turned to the elements, earth, air, fire, and water, without result. They were, perforce, content with the theory of some occult "influence" from the stars. In later days, when the nature of influenza and the manner of its epidemic spread came to be well known, the mystery of its cause still remained wholly unsolved. Even recent epidemics, studied under the most favorable conditions for research, have shed no light upon its actual cause.

It has been easy to show, from time to time, what it is not, and to overturn high castles of theory that stood upon no base of fact. But the spoiling of the grapes went on, and the little foxes were not found. Then opinion came to drift miasmward. What is miasm? In this instance it was something that accumulated in the northeast, beyond Tartary, and was puffed by Boreas, when there was enough of it, across China, Russia, all Europe, and the high seas to the New World, and sometimes around again to far Cathay. Certainly, these vast pandemics were a puzzle. Whatever the cause of them, it could only be transmitted by the most general of media—the atmosphere. Its devastations were like those of the locust, but the field upon which it feasted was the wide, wide world. Surely it bred as it journeyed; else it would have been dispersed to the four winds of heaven in traversing areas neither bounded by continents nor limited by seas. Moreover, colonies of the miasm found abiding places and were left behind; and thus local outbreaks took place from time to time, after the great pandemics were ended. Hence, men came to think and speak of this miasm of influenza as something organized—living, and to explain it by the germ theory of disease.

Happier in his suggestion of the truth than in his versification was the poet who wrote:

> "So, naturalists observe, a flea
> Has smaller fleas that on him prey;
> And these have smaller still to bite 'em,
> And so proceed *ad infinitum*."

And this particular flea, like the celebrated tormentor of the Irishman, eluded capture. When you put your finger on him, he wasn't there. There has now, however, arisen in Würzburg an investigator who has succeeded where all who came before had failed. Otto Seifert is his name. With his sling and a pebble from the brook he has brought down the giant whom the rest went out against in vain. And the manner of it was as follows: Dr. Otto Seifert had the opportunity of observing an epidemic of influenza in Würzburg. It was not exactly a pandemic. The first case came under his notice, in the Julius Hospital, on the 14th of January, 1883, and the last on the 24th of March, in the same year; and they numbered, in all, *seven*. He was, therefore, enabled to cope single-handed with the whole epidemic. He not only routed it, horse and foot, but he also took it captive, and has studied its appearance and habits with the care and interest due to so distinguished a prisoner of war. As the reader anticipates, it is a coccus, and a micrococcus at that. Enlarged 350 times, its length is from 1.5 μ to 2 μ, and its breadth 1 μ; and its number in the sputum is legion. It arranges itself mostly in long chains, the rank and file, less often in pairs (diplococci), and occasionally it stands forth alone (monococcus). It was caught in the secretions of the nares, and in the sputum, in the earlier actions of the campaign. Later, when these became fouled and purulent, the coccus forsook them. In the tears, even when they most bedimmed the eyes, it was not found. This captive was clad by its conqueror in a robe of methyl-violet, and made a magnificent appearance.

In order to establish its identity, laborious comparisons, of the nature of control-experiments, were made. Examinations of the same secretions of many other sick than the seven were conducted, but with a negative result. The coccus was not there; nor was it found in any blood—even of the seven. The inoculation of two white guinea-pigs failed. Like other fierce captives, it grew sullen, and refused to do its trick. Or was it like those noble beasts which become sterile in captivity? Dr. Otto Seifert magnanimously gave it a new robe, of almost Tyrian purple, but the spirit of the victor prevailed, and he has called it by a name not its own—"Influenzacoccus," and has broken its spirit by likening it to the base coccus of gonorrhœa.

A full, true, and particular history of this discovery will be found in Volkmann's *Klinische Vorträge*, No. 240, 1884.

ACUTE INFECTIVE OSTEOMYELITIS.

IN the *Fortschritte der Medicin*, Nos. 7 and 8, 1884, may be found an interesting paper on the part played by micrococci in acute osteomyelitis, from the pen of KRAUSE, of Halle, whose researches confirm those of Struck, made in the laboratory of the Imperial Board of Health of Berlin, under the direction of Koch. The pus with which the investigations were made, and which was obtained from nine cases of osteomyelitis in man, disclosed, after careful culture, the usual orange-colored micrococci, and, in addition to these organisms, in one case, a white coccus, which had previously been described by Rosenbach as occurring in three examples of closed osteomyelitic abscesses, and to which he gave the name staphylococcus pyogenicus albus.

In the experiments made upon eighteen dogs and seven guinea-pigs, with a view to reproduce the disease by inoculation, the culture-fluid was mixed with two parts of water. Small quantities, whether introduced under the skin or into the peritoneal cavity, were followed by negative results, and the intraperitoneal injection of a larger quantity merely set up peritonitis, without any indications of lesions of the bones. When, however, the bones were broken, an abscess frequently formed at the point of fracture. Thus, of fifteen cases, suppuration ensued in seven after a single injection, while in three others several injections produced a local abscess in the vicinity of the fracture, as well as in the neck of the femur in one. In three, in addition to the abscess at the site of the fracture, there was extensive suppuration of the medulla. In all, the pus, as well as the cultures, contained the characteristic micrococci.

The intravenous injection of putrid matter was resorted to in four dogs, in which one of the bones of the extremities had been broken. Abscesses formed in every case at the seat of the injury, but without extensive suppuration of the medulla; and the organisms present in the pus were entirely different from those found in the pus of osteomyelitic abscess.

The results of his experiments lead Krause to the belief that the lesion produced at the site of a fracture in the lower animals by the inoculation of the cocci of osteomyelitis is not the same as osteomyelitis of man; and that the cocci of acute infective osteomyelitis of the human subject are merely possessed of extraordinary pathogenic and pyogenic properties.

A SUPERANNUATED OPINION.

Budin says the opinion that the fœtus is nourished by the amniotic liquor is singular and superannuated, and is unworthy of discussion. Charpentier states that the theory which regards this fluid as nutritive, and that the fœtus swallows and digests it, has now sunk into an oblivion from which it can never escape. But, how little prophets know, for the theory has escaped from oblivion and appears in *The American Journal of Obstetrics* as a new-born child, not as an exhumed corpse! Among the arguments adduced in its support we fail to find the one which Hippocrates used, to prove that the child sucked while in the womb, for, said he, if it did not suck then, how would it know how to suck when it was born? so, if the child did not swallow liquor amnii in the uterus, how could it swallow milk at birth?

Certain proved facts militate against the new-old theory, and a few may be mentioned. The size of the child is usually in inverse proportion to the quantity of amniotic liquor; according to the theory, the more of the liquor the greater ought to be the size of the child. It is hardly probable that a fluid which often, if not always, contains products of retrograde metamorphosis is designed for food. Acephalous monsters are often well developed, but they have not been able to drink a drop of this asserted sole nutritive material for the fœtus. Experiments upon the young of inferior animals have shown that a diet exclusively of amniotic liquor means starvation.

It has been shown by **Wiener** in a recent number of the *Archiv für Gynäkologie*, that in the latter part of fœtal life the function of many organs can be exercised just as after birth, and especially that the great development of the follicular apparatus of the mucous membrane of the stomach and intestines enables them to perform digestion, but as these organs usually contain excrementitious matter, their activity is not important. It does not seem to us that an argument for the exclusive nourishment of the fœtus by the swallowing and digestion of liquor amnii can rest on the condition of the digestive apparatus, any more than we can assert that the special senses of sight and hearing are exercised before birth, because the organs of these functions are sufficiently developed for action.

PSEUDARTHROSIS OF THE TIBIA.

An ingenious method to restore the usefulness of the limb in pseudarthrosis of the tibia, following great loss of substance in complicated fractures, is described by **Hahn** in the *Centralblatt für Chirurgie*, May 24, 1884. The conical extremity of the upper end of the tibia having been removed, the fibula is divided at the same level, its lower extremity implanted in the medullary canal of the tibia, and the lower end of the tibia refreshed in an oblique direction, in order to strengthen laterally the support afforded by the fibula. The plan was successfully carried out by its deviser in a case in which the defect between the extremities of the tibia measured three inches and two-fifths.

POLLUTION OF THE SCHUYLKILL RIVER.

The efforts which have been made to protect the Schuylkill River from pollution from sources within the limits of Philadelphia have been only in part successful. By the acquisition of Fairmount Park many nuisances on both banks of the river, which contributed toward the contamination of the water, have been abated. But there still remain numerous and well-known sources of sewage contamination of the most repulsive and dangerous character, which, at certain seasons of the year, and in certain conditions of the stream, have caused the water to be exceedingly unwholesome. Notwithstanding these facts, and in the face of the protest of citizens, every effort made to have the evil removed has been a failure.

Several years ago when legal proceedings had been commenced against certain mill-owners for discharging deleterious substances into the river, City Councils ordered the suits to be discontinued, for the reason, as surmised, that interference with industrial establishments would have the effect of driving them beyond the city limits. Whatever may have been the motive which induced this unwise action, the result has been to perpetuate a nuisance which has been increasing in magnitude year by year until at last it has become imperative that the rights and health of the people should be protected.

Upon evidence collected by the Chief Engineer of the Water Department, the City Solicitor has been directed to prosecute the offending parties, and, with the support of the Board of Health, this officer has commenced proceedings against a number of persons who have been bound over to answer at court for creating and maintaining a nuisance injurious to the public health.

These proceedings will be watched by the community with the most intense interest. The hope is that they may be successful for their direct results, and also in establishing a precedent which shall serve as a guide in similar cases. If not successful, the burden of providing an outlet for sewage, other than the river, will rest on the city, and the final consummation of this object be hastened. In either event the people will have gained an important advantage.

WE congratulate Jefferson College, and the medical profession of this city, on the election of **DR. MALLET**, to succeed the late Prof. Robert E. Rogers. No abler man has held the Chair of Chemistry since the College was founded, and not one who combined more of the requisites for this important position.

Dr. Mallet received his first medical and scientific training at the University of Göttingen, where he graduated Ph.D. Devoting himself to chemistry and cognate subjects, he has achieved a position in the front rank of those devoted to this department of science. He is now a Fellow of the Chemical Society of Great Britain, and also of the Royal Society, the latter the highest and most prized scientific distinction attainable in England, or, indeed, in the world. Dr. Mallet is M.D. of the University of Louisiana, and LL.D. of the College of William and Mary, Virginia. Besides these titles, he is fellow and member of various scientific bodies at home and abroad. He now resigns the Chair of Chemistry in the University of Virginia, to accept the same position in the Jefferson Medical College of Philadelphia.

Dr. Mallet is a fluent and agreeable lecturer, and is a great favorite with students, because he combines an agreeable manner, a lucid style, and a penetrating voice. He is now fifty-two years of age, in the maturity of his powers, and many years of his best working capacity are yet before him. We do not doubt that in his new position he will add much to the reputation of the chair which he fills, and of the city to which he is about to remove.

AT the recent meeting of the Canada Medical Association **DR. WILLIAM OSLER** was elected President for the ensuing year. This honor we learn, from the *Canadian Practitioner*, was tendered at this time, in view of Dr. Osler's probable early transfer to a new field of labor in the States, and with singular unanimity, as a special mark of the esteem in which Dr. Osler is held by his professional associates in the Dominion.

SPECIAL ARTICLE.

THE CHOLERA CONFERENCE AT BERLIN.

(Concluded from page 248.)

PROF. VIRCHOW opened the adjourned discussion upon Dr. Koch's address by saying that, in his opinion, the Conference had been called as a jury to which Dr. Koch should speak, and it was for those present to say whether they were satisfied with his report. In order that the discussion should be kept within bounds, certain questions had been prepared, which covered all the points raised by Dr. Koch's address, and upon which they were requested to express their views.

The first question considered was:

Is cholera generated by a specific infectious material which comes from India only?

DR. KOCH said that he had thought it necessary to bring up this question because it has been doubted on many sides, and especially of late, whether cholera is a specific disease, and originates only in India.

PROF. VIRCHOW believed that there could scarcely be a discussion on this question in Germany; at least he did not know that any noteworthy attack upon the truth of this proposition had been made in Germany in the last decade. No dissenting opinion was expressed.

Is the infectious material contained in the stools, and eventually in the vomited matters, or is it also found in the blood, urine, perspiration, and expired air?

PROF. VIRCHOW said that this question was important because the members of the French Commission in Egypt believed that the infectious material was found in other parts of the body, as in the blood, which was denied by Koch.

DR. KOCH said that, so far as he had seen, the infectious material was found only in the stools, with the exception of one time in the vomited matters. It cannot be contained in the blood, as is shown by the fact that infection never occurs from making an autopsy, whilst with other diseases, as splenic and relapsing fever, in which the infectious material is found in the blood, infection does occur.

Is the presence of the comma-bacillus of diagnostic value (a); and is the infectious material of cholera identical with the comma-bacillus (b)?

DR. KOCH thought that both these points should be considered together, and that (*b*) covers both. He wished, however, to state expressly that the microscope is sufficient only in a few cases; and that it is especially necessary that culture-methods be employed.

PROF. VIRCHOW said that the practical question is still subordinate. He would state the question (*b*) thus: Is the infectious material of cholera to be considered as identical with the comma-bacillus? And he would say that some of the elements of certainty were still lacking. On the one hand, cholera has not been communicated to animals through the medium of the comma-bacillus. This, however, is not an absolute counter-proof. Many experiments have been made with the view of communicating cholera to animals. Nor is the necessity of a successful experiment of this kind removed. The experiments of Vincent Richards are well known, but it seems probable, according to Koch, that the disease which he caused was a kind of intoxication by septic or poisonous material produced by the bacilli. It is certain that in investigations of this kind that comparative experiments should be made on the one hand with pure cultures from the infected animal, and with cholera dejecta on the other. Nor does it yet appear to be absolutely impossible to produce a case of cholera in an animal.

On the other hand, he has expressed himself from the first, that he thinks it very probable that the problem, which has remained in suspense for ten years, as to the existence of a specific microörganism, has now been definitely solved; and further, that of the many microörganisms which are found in the cholera dejecta there is no other one which with any probability can be accused of specificity. Certainly the whole history of cholera, its manner of spreading, shows that that it must be referred to a living organism; and all measures for its prevention must be based on the supposition of this living organism. Since, also, it is entirely improbable that cholera is spread by the transportation of any chemical substance; and since, on the other hand, out of the entire sum of the organisms which are found in cholera only one appears to be in any way peculiar to it, it must be apparent that the probability is extraordinarily great that this one is the peculiar organism of the disease. Koch has reported that in certain dejecta, as also in certain specimens of the intestines of cholera patients, almost pure cultures of this bacillus exist; and that in the soiled linen also, which we recognize as a dangerous means for the transportation of the disease, the growth of these bacilli was very rapid and powerful. From this it seems conclusive that, in a measure at least, the doors are closed against further hypotheses. As to whether this bacillus is present in any other disease or under other circumstances, we cannot yet definitely determine.

Dr. Koch, in referring to the experiments of Richards, recalled the fact that his results could be considered as nothing else than an intoxication. The hogs died in an incredibly short time; in two and a half hours at most. Furthermore, Richards has not succeeded in reproducing his infectious material. He would not assert that there is no animal which could not be affected by the infectious material; he only says that in all those animals which have hitherto been experimented on, and which come in contact with cholera patients, not one has become choleraic. The question, therefore, is still unsettled. But Richards's experiments prove nothing whatever against the signification of the comma-bacilli; on the contrary, they appear corroborative of his opinion as to the etiology of cholera, because one learns in this way that a toxic substance is formed in the intestinal contents under the influence of the comma-bacilli.

Prof. Virchow said that as regards the question, whether the demonstration of the comma-bacillus is of diagnostic value, we know that Dr. Koch is not entirely certain that the diagnosis is assured by simple microscopical proof of the bacillus. We may now ask: If a doubtful case occurs in which the symptomatology points to Asiatic cholera, and microscopic examination should show, without further experimentation, that numberless bacilli were contained in the discharges, would Dr. Koch be doubtful as to the real nature of the case?

Dr. Koch said that in this case he would not be in doubt for a moment. But it does not often occur that one finds large quantities of the comma-bacilli in a microscopical examination, made with the view of establishing the diagnosis; and, as a rule, culture-experiments are necessary, and should never be omitted. He returned, therefore, to the question as to the practical value of the demonstration of the comma-bacilli; he did not consider it a matter of indifference whether, for example, in the very first cases, which have perhaps been introduced by a ship, or in some such manner, to ascertain certainly whether they are cases of true cholera or not. Prof. Hirsch has said that the difficulty may be avoided by waiting, in order to see whether the cases recover, in which event they are cases of cholera nostras; but men may recover from Asiatic cholera also; and we must wait further and see if the cases spread, in which event the most favorable moment for meeting the disease has passed. Under all circumstances, it is very important that the first cases be taken in hand, and rendered harmless by proper regulations. The diagnosis of the first cases is of great consequence, not only on the very first introduction of cholera into Europe, but also on the appearance of cholera in any place, since then we may render the first cases harmless by isolation.

As regards the difficulty of the methods for recognizing the comma-bacilli, he believed that the coloring of the tubercle-bacilli, which was very quickly adopted, is more difficult than the culture of the comma-bacilli; and furthermore, as very many physicians have successfully colored the tubercle-bacilli, these experiments can certainly be performed by the majority, if not by all, of the health-officers.

Dr. Schubert asked in what stage, that is, how soon the comma-bacilli are found; and whether they can be found in the dejecta at the very beginning of the disease?

Dr. Koch stated that he had shown that they were found at the very beginning of the disease. In reply to a question by Prof. Hirsch as to whether, in the case of a man coming to Berlin with the symptoms of cholera, but in whose intestinal discharges no bacilli could be found, he would keep him under observation, Dr. Koch said that he would regard such a man as suspicious. With regard to the necessity of sending cholera material to a special place to be examined, Dr. Koch said that he hoped that it would not be long before every physician would be able to make such examinations for himself.

In reply to Dr. Fränkel, Dr. Koch said that the difficulty of making these examinations was greatly overrated; it is very easy to get the proper kind of gelatine now, and one has only to warm the gelatine, mix it with a particle of mucus from the dejecta, and put it on a glass plate. The plate is then put under a bell-glass, or between two common plates, as he had done in Calcutta. An especial warming apparatus for the culture is not necessary; a summer temperature in the room is entirely sufficient.

Does the infectious material possess great capacity for resistance, and a permanent condition? Is it destroyed in a short time by drying?

Prof. Virchow referred to a late discussion which he had had with Prof. von Pettenkofer on this subject, in which the latter had gone so far as to state the possibility of the material remaining in a permanent form for a long time, so that the germ of the infection may remain latent in a place for many months and then cause an outbreak of the disease; and he regarded it as very possible that the germ had been introduced into Toulon early in the year.

DR. KOCH said, in reply, that his experience went to show that the cholera germ possessed neither a capacity for resistance nor for remaining in a permanent form. It has been reported that an epidemic of cholera has been caused in a certain part of Switzerland from the sending of rags from Zurich, but the whole matter is so superficially reported that it is entirely uncertain whether all other sources of infection were excluded, that no value can be attached to the case. Certainly, we can refer to endless cases in which rags, soiled with cholera discharges, have been sent out from infected places and no case of cholera resulted. In reply to certain statements of Prof. Hirsch, that there had been intervals of several days or weeks between the first case of cholera and the outbreak of the epidemic in a place, he said that this had no bearing on what he intended by the expression "permanent condition" (Dauerzustand). He now has material from splenic fever which has been dry for twelve years and is still active. We have examples in which syphilis has been inoculated after one year or longer; and we know that vaccine virus remains active for several years. This is what he meant by "permanent condition." But soiled linen cannot remain moist for even a few weeks. He has kept the comma-bacilli in a reagent-glass for six weeks, but they did not on that account possess a permanent form. As soon as they were dried they died immediately. It is noteworthy that on trading vessels, which carry all sorts of articles which could contain the infecting material of cholera, cholera never breaks out except during the first few days after leaving port. But on large vessels it is otherwise; the outbreak may occur soon after leaving port, or it may not occur for two, three, or four weeks, or longer. Now it is strange that the infecting material should remain in a permanent condition only on those ships which have a number of men on board, and get active by degrees. How is it that this never occurs on trading vessels, or those which have only a few men on board, who are not so thickly packed together? This, in his opinion, is one of the most striking examples to show that as a rule the infecting material dies extraordinarily quickly, and that it is only maintained in men by a continuous contagion; which is certainly rendered possible in these extraordinary circumstances by the living together of so many men. The statements which have been frequently made as to the transportation of the disease by the clothes of travellers are therefore very uncertain.

PROF. HIRSCH thought it very possible that in a place in which cholera has become epidemic, the bacillus may be maintained in a moist material when circumstances are unfavorable for its reproduction, and be reproduced again when the circumstances become favorable, and so create a new epidemic; and he referred to the two epidemics in Dantzig in 1848–49.

DR. KOCH replied that this could not be understood as a permanent condition, such as we understand it in other bacteria. It really raises an entirely new question, which should not be confounded with the expression "permanent form," but which is worthy of consideration. He has shown that the comma-bacillus can stand a very low temperature, and that it can exist apart from the human body—on potatoes, for example—or its existence may be prolonged for some time in a reagent-glass with gelatine, or on linen. It is possible therefore that some such thing as this occurred, and that the comma-bacillus underwent a slow growth under restricting circumstances, or held its own for a time without finding an opportunity for infecting. This is always possible, though he has had no such experience, and cannot speak with certainty. To determine this, one must go to a place from which cholera has disappeared for some time, and thoroughly examine all places in which the infectious material could possibly be retained. This could not be done in Calcutta because it is never free from cholera.

Can the infectious material get into the body in any other way than through the digestive canal?

DR. KOCH said that he had purposely introduced this question into the discussion because Pettenkofer is of the opinion that it can also be introduced by the breath and through the lungs.

PROF. VIRCHOW remarked that von Pettenkofer rejects every other method of infection than that by the air and the lungs.

DR. KOCH said that he had found that, under exceptional circumstances, the infecting material can be conveyed through the air, but only to a very short distance; and it may be said, as a rule, that it is not thus introduced. The example to which he referred was noticed in Alexandria, where the sewers discharge into the new harbor; the sea-water was thus soiled in the vicinity, and when standing at the water's edge, one was obliged to clean his eye-glasses about every five minutes when the breakers were high, as they were covered with spray. It is very easily imagined that such spray, from water containing cholera discharges, may carry the infecting germs, and it is the more probable from the fact that a number of the people living on the new harbor were attacked by cholera.

PROF. LEYDEN referred to the fact that the persons who carry cholera corpses are often infected, and said that although they might possibly be infected in some other way than through the air, he thought this hypothesis the more probable; not that the material necessarily reaches the interior of the body through the lungs, but it may be conveyed to the mouth through the air.

DR. SKRZECZKA thought it also possible that in dry weather the infecting material might be carried through the air in the dust, and thus reach the mouth; and that it was also possible that this material may be first dried so that it can be carried about by the wind.

DR. KOCH said that it would be very strange if only the men employed in handling the bodies should be infected, and the nurses and the physicians who come into closer relations with the cholera patients, and with the vaporized discharges, should so often escape. In reply to Prof. Leyden's remark that many of the nurses were attacked, and died, in the epidemic in Dantzig, in 1866, he said that it frequently happens that nurses and physicians are not much more often attacked than other people; they are accustomed to wash and keep themselves clean, but they could not take precautions against the dust. The men who attend to the bodies, however, are in especial danger, as they go into the dead-house and eat there. But they are not alone exposed to the dust-form of the infecting material, but can be infected in many other ways. To the remark of Prof. Leyden, that he did not mean that the dust was the carrier of the germs, but that he could see no difficulty in supposing that the germs of the infectious material might be suspended in the atmosphere if a strong evaporation was going on, Dr. Koch replied that he must oppose this altogether. All experience with infecting materials and microörganisms is opposed to such a theory.

Is the infectious material reproduced in man, or does this occur independently of the human body in the soil, and is man (and animals) only the carrier?

PROF. VIRCHOW said that there was another question which would come in here. If this is essentially an air-breathing organism, is the human intestine an especially favorable place for its development?

DR. KOCH said that he had already asked himself the same question. But there must be a supply of free oxygen in the intestine, or at least such a combination as will furnish oxygen to the bacillus. We see the bacilli living in great numbers in the intestine, and we see also that if the air is removed from the body they cease to grow. From this it seems that they must find oxygen in some way. It may also be stated that there were large numbers of other bacteria in the intestine, which also stopped growing under the same circumstances. And the oïdium lactis, which needs oxygen for its development, sometimes grows very richly in the intestine.

PROF. VIRCHOW said that he considered the question as to the soil more important, whether the infecting material is reproduced in the soil, and whether man serves only as the carrier. He thought it very probable that it was reproduced both in the soil and in man. As regards the soil, Dr. Koch has at least shown the possibility that moist earth may serve as a base for its growth.

Is a direct transportation possible, or must the infectious material go through a kind of ripening or growth in the soil or elsewhere?

PROF. VIRCHOW thought that on this point nothing further could be said than what had already been stated; namely, that there is no ground for holding to a hypothesis of a special generation-change or ripening. Certainly, after what had been said, such an assumption would be somewhat arbitrary.

DR. KOCH said that this assumption relates not only to the soil, but also maintains that the infecting material would need a special process of ripening in soiled linen, since the linen cannot be infectious in the fresh state. But the assumption has been especially supported by the experiments of Thiersch, and he was glad to hear it discussed. He himself believes that the soiled clothing is infectious as soon as it becomes soiled.

Is the infectious material conveyed only by human intercourse?

What are the carriers of the infectious material to distant places; ships, articles of clothing, letters, healthy or infected men?

What are the carriers of the infectious material to neighboring places; cholera corpses, cholera effects, soiled clothing, articles of food, water (for drinking and household purposes), the air, insects?

DR. SKRZECZKA said, in reference to these questions, that from Koch's standpoint it did not seem impossible that the contagion could be conveyed by rags and clothing. And it has been certainly proved that by drying for a certain length of time the development of the bacillus and its capacity for spreading are checked. It is, however, not entirely certain what is to be understood by this drying. It is well known that rags are often piled in large heaps, and it seems that a considerable time would be required in order to dry the whole heap.

PROF. VIRCHOW said that rags are no more important as elements for carrying infection than filth; and if, for example, the rags and soiled clothes of a poor man who has died of cholera be thrown into a heap of rags, the possibility of infection is just as great as though the whole heap was composed of soiled rags.

DR. KOCH would only say that he had had no practical experience as to the question now under consideration, and it seemed very doubtful to him. The question of the possibility of infection by means of rags was considered in the Cholera Congresses at Vienna and Constantinople, and no one could bring forward a single example of cholera being spread from rags, as, for example, amongst the rag-sorters in paper mills; and it must be concluded that the handling and working of the rags is such that the infectious material is destroyed. And of what avail would it be to keep rags out of the country while men infected with cholera are allowed to come in? The possibility of the transportation of the infection by rags is, in the light of experience, infinitely small, whilst that by apparently healthy men is very great. In answer to a question by Prof. Virchow, he said that in his experience the comma-bacillus dies quite soon in clear water, that is, within a few days.

Is a special individual predisposition necessary for the infectious material to become active?

How long is the stage of incubation?

Does recovery from cholera confer immunity from the disease for any definite period?

Can the action of the bacilli be regarded as a kind of intoxication?

PROF. LEYDEN said that one attack of cholera seemed to give a certain immunity against a second; but that this immunity is not absolute. Persons have been known to have three attacks of cholera in one epidemic, but it is seldom that a person is twice attacked in two epidemics separated by a short interval of time.

DR. KOCH, in answer to a question by Prof. Hirsch, said that he had found out nothing further regarding the period of incubation than had already been stated in his report.

PROF. HIRSCH said that he had never known of a period of incubation of less than two days, and that, as a rule, it was from three to four days—never five—as he learned in 1873 on his cholera expedition.

PROF. VON BERGMANN said that it seemed important to him that, for the prophylactic measures which must be employed, we should be able to make use of Dr. Koch's experience as to the spread and destruction of the infectious material. To the answer of Dr. Koch, that this would involve, what they wished to avoid, a determinate judgment as to the entire conception of cholera, and that each one should form his own opinion from what had been said in the discussion, Prof. von

Bergmann replied that each one could do this, but it was important to protect commerce and the community. As to what had been said, it gives a good deal of latitude to the physician. As regards the experiments on drying, he would propose that certain disinfection regulations be tried beside those which have been already used. All possible materials should be tried, and disinfection with different antiseptics and in different places.

Prof. Virchow then announced that the discussion was closed, and said that he had some hope that they would meet at another time in order to hear of new experiments, and to discuss other points. That would of course depend upon the course of events and especial circumstances. He then expressed his thanks to the members of the Imperial Health Office, and especially to Dr. Koch, who had not only welcomed the visitors, but had imparted so much new and important knowledge to them.

Cholera Nostras and the Comma-bacillus.—The *Deutsche medicinische Wochenschrift*, of August 21st, states that during the past few days there have been a number of cases of cholera nostras in Hamburg, which ran a rapid course. Careful microscopical examinations were made of specimens from the last fatal case, and culture-experiments were also made, with the view of finding the comma-bacilli, but with completely negative results.

REVIEWS.

The Hip and its Diseases. By V. P. Gibney, A.M., M.D., Professor of Orthopædic Surgery in the New York Polyclinic, etc. 8vo. pp. iv. 412. New York: Bermingham & Co., 1884.

The author of this book has had unusual opportunities for the study of joint-affections, having for thirteen years resided in the Hospital for the Ruptured and Crippled, in New York, during which time he has seen over two thousand cases of hip-joint disease alone—an astonishing number to come under the observation of one man. It need hardly be said that conclusions deduced from the study of so large a material are worthy of the utmost consideration; and although our space will not permit a critical analysis of them, we will mention a few of the most important.

In the first place, we note the author's statement that the majority of cases of hip-joint disease occur before the eighth year, and are the consequence of an ostitis interna, the focus of the disease being in or near the centres of ossification; that the head and neck of the femur are oftener involved than the acetabulum; that synovitis is secondary to the ostitis, and is simple if developed by contiguity, and purulent if by perforation; while after the age of eight years the origin of the disease is a central ostitis, a periostitis, a chondritis, or a synovitis, with about equal frequency.

In regard to the etiology of joint-disease, the author's experience leads him to divide the cases about equally between those in which the disease depends upon an inherited strumous diathesis, and one in which this has been acquired. One of these, however, he regards as the great predisposing cause of all chronic inflammatory bone lesions of the hip. He thinks the disease may be excited by a traumatism, exposure to cold, acute disease—an exanthema, for example, and most frequently —while in many cases no exciting cause can be discovered. He has about equally little faith in the way in which an exciting cause is often decided upon, and the way in which an inherited diathesis is decided against.

In regard to the matter of treatment, Dr. Gibney favors a method which is somewhat eclectic. The expectant method—that is, the symptomatic, if it may be so expressed—he thinks will secure good results in very few cases; in the large majority it is utterly inadequate to arrest the disease or secure the best result. For this reason it is to be rejected whenever the diagnosis of chronic ostitis of the hip is certain; when there is doubt, it may be adopted till the case becomes clear. The so-called physiological method of Dr. Hutchison—the crutch and high shoe—he thinks a delusion, securing only temporary improvement; though it has a certain value as part of the expectant plan of treatment. His preference is decidedly for fixation-apparatus; extension he does not seem to have much faith in. Short splints, which permit motion, are of little use, in his opinion. The long splint secures the best results in competent hands. The only basis for the proper treatment of hip-joint disease, he holds to be the idea that this is not a synovitis, but a disease of the bone-substance, requiring the same principles for its management as a fracture, namely, fixation and rest.

As a whole, it may be said that this book is worthy of most careful study. It has some defects of style, and is opposed to the convictions of some who think better of certain methods of treatment than the author does. But it is full of suggestions, and exhibits a thoroughly candid, though fearless, spirit in dealing with matters of dispute. In fact, its excellences are so many that justice cannot here be done to them all, and its defects so few that it would be hypercritical to dwell upon them.

SOCIETY PROCEEDINGS.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Eighth Annual Meeting, held at Highland Falls, N.Y., August 27, 28, and 29, 1884.

(Specially reported for The Medical News.)

(Concluded from page 271.)

August 28th, Second Day—Morning Session.

Dr. L. A. Duhring read a paper on

DERMATITIS HERPETIFORMIS AND ITS RELATIONS TO IMPETIGO HERPETIFORMIS;

in which, after describing the disease and its several varieties, he endeavored to show that the disease of Hebra was merely one manifestation of an extensive multiform and protean process. The history of impetigo herpetiformis was referred to, and a *résumé* of all the reported cases given, the conclusion being arrived at that the so-called impetigo herpetiformis of Hebra should be viewed as the pustular variety of dermatitis herpetiformis.

Dr. Fox thought great credit was due Dr. Duhring for taking so comprehensive a view of many varying forms of disease which had hitherto been described under so many different names, as pemphigus pruriginosus, herpes chronicus, herpes gestationis, etc. He thought that all these belonged to the disease which Dr. Duhring had described.

Dr. J. C. White was convinced that the more we studied these cases the more difficult would we find it to classify them absolutely. He was inclined to think that the term multiform dermatitis would apply to them better than the others which had been suggested. He was not quite ready to admit that the writer of the paper had shown the existence of an absolute connection between his own cases and those which Hebra described as impetigo herpetiformis. He had never seen a case of Hebra's fatal impetigo of pregnant women, and would therefore prefer to regard the question of the identity of the two affections as still undecided. He saw no more reason for regarding the affection described by Duhring as of a neurotic origin than in almost any other inflammatory affection of the skin. Pigmentation was rare in the cases that he himself had seen, and the affection did not recur. He called attention to the fact that the disease was much more likely to be confounded by the general practitioner with eczema than with herpes.

Dr. W. A. Hardaway thought that a certain class of cases in which the lesion assumed the form of vesicles, papules, and pustules could properly bear the term "herpetiform." He thanked Dr. Duhring for grouping these and giving them a perfectly satisfactory name. He thought there was a neurotic basis to many of these affections, but he would not regard it as a disease any more than he would call a drug eruption a distinct disease.

Dr. A. R. Robinson spoke of three cases which he regarded as belonging to the class described. He felt that thanks were due Dr. Duhring for classifying these cases, which all dermatologists had seen and were at a loss to designate. He also was not willing to admit, without further investigation, that they were identical with Hebra's cases of impetigo herpetiformis. He had never seen the scarring described by Dr. Fox as occurring in the disease.

Dr. S. Sherwell said that he believed Hebra's cases to have been of a septic origin, identical with those often seen in military hospitals infected with hospital gangrene. He himself had seen many such in the ambulance at Sédan under the care of Sir Wm. MacCormac. He was inclined to suggest the name of "dermatitis necrogenica" for such cases, believing that even in Hebra's cases in pregnant and puerperal women, there might have been a septic absorption from an occluded tube in salpingitis, from the peritoneal cavity, a uterine clot, retained placenta, etc. The pruritus so common in the cases he was induced to regard as the result of the irritation from the deposits in the skin.

Dr. Duhring, in closing the discussion, said that his paper was practically a synopsis of one read at the last meeting of the American Medical Association, which was not yet in print. His information concerning the disease was based upon the careful study of sixteen or seventeen cases of the affection observed during the past fourteen or fifteen years. He did not regard the objections raised against the term "herpetiformis" as valid, there being at first in many of the cases a distinctly herpetic character. He admitted that most of his cases were of a different type from those of Hebra, but some of them closely resembled the latter, except that they did not prove fatal. A few of them were so acute as to present cutaneous disturbances of the most intense grade. He thought the difference between the two sets of cases simply one of degree. He thought that most of his cases had a neurotic origin. In some cases the disease is undoubtedly septicæmic, as it doubtless was in Hebra's cases. The causes of the disease were various. In some of his cases the affection was both neurotic and septicæmic, and he would soon report a case in which the disease was caused by a nervous shock, it having appeared on the next day. In his experience pigmentation was common, some of the cases resembling mulattoes. The disease was unquestionably a distinct affection, as much as any skin disease. He thought the term "necrogenica" decidedly objectionable, as in many cases there was not a possible suspicion of a septic origin.

August 29th, Third Day—Morning Session.

In the absence of Dr. Henry W. Stelwagon, the Secretary read two papers forwarded by him entitled: *A Case of Late Cutaneous Syphilis* (*Acne-form Syphiloderm of the Nose*), *Illustrating the Occasional Necessity of Large Doses of Potassium Iodide;* and *A Case of Vitiligo Involving the Whole Surface.*

Dr. W. A. Hardaway then read a paper on

A CASE OF GENERAL IDIOPATHIC ATROPHY OF THE SKIN.

The patient was a blind man, aged twenty-three years, of healthy parentage, and having a sister who was also blind and, he said, suffered from the same skin disease as himself. His trouble dated from infancy, and he had had eye-trouble for sixteen years. With the exception of headaches, his health was good. His intelligence was good, but he was poorly nourished. His face presented a rosaceous appearance, the skin being thickened. No papules or pustules were present. There were scars around the mouth, and his lips were thickened. The skin of the neck was pigmented in spots, and red on the sides, showing enlarged vessels. Front of trunk presented a shining, checkered aspect, due to many pigmented spots of various sizes and atrophic macules. The whole skin, in fact, was atrophied and tense. There was a number of cicatrices over the chest and abdomen, and the umbilicus was on a level with the surrounding skin. The back presented the same aspect as the front of the body. No telangiectases were at any time visible. The skin around the elbows was deeply pigmented and slightly scaly. The skin and muscles of the hand were atrophied, and the sides of the fingers were adherent to each other as far as half way up to their tips. The condition of the lower limbs resembled that of the upper. The feet were about normal. The hairs were short and scanty all over the body. The perspiratory function was poorly performed, but the cutaneous sensibility was not much altered. There were no marks of subjective symptoms. Examination of the eyes showed necrosis of the conjunctivæ, adhesion of the lids to the globes, and opacities of the corneæ.

DR. L. A. DUHRING said that his study of the recorded cases of this disease had taught him that beyond atrophy there were no special features which distinguished the process, neither telangiectasis nor pigmentation being essential elements. In the scleroderma of Hebra and the angioma pigmentosum et atrophicum of Taylor the features presented often varied greatly. We meet with cases of the disease in all grades, from those having no tendency to degeneration to those developing sarcoma or carcinoma, as in the graver forms of the affection.

DR. R. W. TAYLOR gave it as his opinion that the condition of the skin in the case reported was not like that met with in angioma pigmentosum et atrophicum, this patient presenting simply an ill-nourished, senile-like condition of the integument, with no evidence of vascular disturbance. The process had not been active enough to lead to neoplastic formations. In cases showing these, they usually appeared at the junction of skin and mucous membranes, or upon surfaces constantly exposed to irritation or friction from active motion.

DR. J. C. WHITE was unable to agree with Dr. Duhring as to the affinity which he believed to exist between the different varieties of atrophic processes in the skin. In one class of cases we met with loss of pigment and a deposition of epithelium, without change in the corium, and in another hypertrophy of the corium was a marked feature. In still another class of cases, new growths, such as sarcoma and carcinoma, were present. He did not think that the case reported could be connected with these. In the majority of the cases he had alluded to, the atrophy was a mere phenomenon, and not the essential feature of the disease.

DR. A. R. ROBINSON then read a paper on

MILIARIA AND SUDAMINA.

His object was to attempt to define clearly the true nature of the affections, and the conclusions he had reached were largely based upon careful microscopical studies of the diseases. Section through the deep-seated vesicles (which usually occurred on the face) showed that the papular or vesicular formation consisted of an exudation into the rete mucosum around the orifice of a sweat-duct; composed of serum, corpuscles, and more or less sweat, but never of the latter fluid alone. The changes in the rete were similar to those encountered in eczema, and the exudation came from the vessels of the papillæ. A catarrhal condition of the sweat-glands was also often noticed. He concluded that miliaria alba and rubra were not inflammatory processes of the sweat-glands, but rather of the skin around them. Specimens of sudamina had revealed the fact that the vesicles were always formed in the corneal layer, and that they were in direct communication with sweat-ducts. The surrounding rete mucosum was normal, and the contents of the vesicles were therefore sweat. The glands and ducts seemed normal. The disease was therefore not an exudative process, but consisted in an increase in the sweat-formation from hyperæmia with some obstruction to the escape of the sweat; he therefore concluded that miliaria alba and rubra were forms of eczema, or catarrhal inflammation of the skin, due to heat, irritating clothing, acrid sweat, etc. That the affection should not be called sudamina was shown by the fact that the contents of the vesicles were not sweat, but of a serous nature. The dew-drop like eruption was not an exudative affection, but a disturbance of the sweat-glands, the result of an hyperidrosis. He thought that the term miliaria should be dropped, as the affection was of an eczematous nature, and that the term sudamina should be applied to it.

DR. W. A. HARDAWAY objected to the use of the term eczematous as applied to the affection under consideration, as the latter was a true dermatitis and eczema was a distinct disease.

DR. J. N. HYDE was inclined to accept fully the views advanced in the paper. He thought that miliaria and lichen tropicus were simply due to accidents occurring in the course of an eczema.

DR. J. C. WHITE thought that any attempt to lessen the confusion in dermatological nomenclature should be warmly welcomed; and also that the position taken by the author was the only philosophical one. He himself recognized no such diseases as miliaria alba and miliaria rubra as distinct affections, but regarded them as merely forms of eczema. The question was, after all, one of definition only.

DR. L. A. DUHRING held that miliaria was a disease characterized by true inflammatory phenomena, such as papules, vesicles, and vesico-pustules, beginning around the sweat-glands and ducts. It seemed to him very plausible that the products of this inflammation should show themselves at some distance from the glands, and not at their orifices. He had always held that the disease was primarily caused by some disturbance of the sweat apparatus, resulting in vesiculation or papulation or diffuse hyperæmia of the general surface.

DR. ROBINSON called attention to the fact that the sweat-glands stop at the upper part of the corium, there being no perspiratory apparatus in the epidermis. In the so-called miliaria the formation of papules or vesicles takes place around the sweat-orifices, which proved that the disease was not an affection of the glands. The point of greatest hyperæmia is around the orifices of the ducts, and if this should be prolonged a quasi-inflammatory process would result, while if the irritation were not too prolonged or intense, vesicles or papules would be formed around the congested spot as a *pars minoris resistentiæ*, as it were, without the sweat-glands themselves being in the slightest degree involved. Hyperidrosis alone never gave miliaria without the influence of some external irritation. He thought that as we had dropped the old term for this affection, lichen simplex, we might just as advantageously drop miliaria.

DR. R. W. TAYLOR then read a paper on

A PECULIAR RINGED AFFECTION OF THE GLANS AND PREPUCE.

He described three cases of the affection seen during the past ten years. The patients were all from forty to fifty years of age, and all free from syphilis. Marked neurotic disturbances preceded and attended the outbreak in all the cases, in one an attack of creti-epididymitis and recurring attacks or balano-posthitis, and in another a chancroid had been severely cauterized on the glans, which led to long-continued swelling and other inflammatory disturbances. In all the cases the disease appeared in the form of a few rings covered with thin, firmly adherent, glistening scales, seated upon a normal mucous membrane without hyperæmic halo.

The lesions always began as a ring, and not as a papule spreading peripherically. After the lesions had appeared they remained stationary, showing no tendency to extend, and no new ones coming out. The affection was confined to the mucous membrane, the adjacent skin not being involved in any of the cases. Disagreeable sensations in the affected and adjacent parts were present in all of them, and the author of the paper had recognized the existence of a marked neurotic element in all. The affection resisted obstinately all local treatment, and would grow better and worse in a very capricious manner. The cases all finally recovered under the long-continued use of large doses of arsenic. The first case has since remained free from the disease for six years, the second five. He was loath to regard the disease as one *sui generis*, but in studying the cases he had carefully eliminated syphilis, tinea circinata, and psoriasis from the diagnosis.

Dr. L. A. Duhring said that, as far as the gross appearances of it went, he was very familiar with the diseases described. As regards the subjective symptoms, they were absent in his cases. These were also three in number. He was very much puzzled when he first saw them, but had finally concluded to call them lupus erythematosus. After listening to the paper, he felt satisfied that the cases were instances of the same affection Dr. Taylor so graphically described. In his cases the appearances, the course and evolution of the lesions, the occasional outbursts of hyperæmia, and the persistence of delicate very superficial cicatricial tissue here and there after the disappearance of the congestion, all pointed to lupus erythematosus. The course of the disease was very variable, the rings at times shortening from central pin-head-sized papules, and increasing to one-half inch in diameter, often coalescing and clearing up in the centre and scaling off. At times the lesions took the form of patches, not rings. They were seated upon the glans, extending over the corona and spreading over the mucous membrane, half on the corona and half on the prepuce, being most marked on the former. These cases were free from neurotic manifestations, and all proved very obstinate. A cure was finally accomplished in two of them by destroying the lesions with caustic potash.

Dr. J. C. White had had one case under observation for some months. The glans alone was involved, over almost its entire surface. The disease had existed a year, and was no better when last seen. He had made no positive diagnosis, but thought that it might have been lupus erythematosus.

Dr. W. A. Hardaway described what he regarded as a similar case. The patient had been treated for psoriasis and recovered. A few months later he presented himself with a red, scaly, not thickened nor elevated patch on the side of the glans penis. No improvement had occurred after six months' treatment, even with increasing doses of arsenic. The course of the affection was entirely unlike that of psoriasis.

Dr. W. T. Alexander, of New York, then suggested that perhaps the affection might partake of the nature of the disease known as leukoplakia buccalis. He thought there was a marked resemblance between the clinical histories of the two affections.

Dr. E. Wigglesworth, of Boston, cited the case of a man whom he had successfully treated for leukoplakia buccalis, and who afterwards returned with a kidney-shaped patch, clearing up in centre, on the glans penis. It was attended with disagreeable itching sensations. There were no evidences of syphilis in the case, and he had eliminated from the diagnosis everything but lupus erythematosus, an instance of which affection he finally pronounced it. It finally disappeared under the use of pure carbolic acid.

Dr. Taylor, in closing the discussion, said that in his cases the affection did not begin as a papule, but always as a ring, clearly defined, as large as a ten cent piece. They were not indurated, were slightly elevated, thinly covered with dull-gray adherent scales. No scarring had taken place. There were also no attacks of recurring hyperæmia, and he was confident the cases were not instances of lupus erythematosus.

The following were then elected

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. W. A. Hardaway, of St. Louis.

Vice-Presidents.—Drs. J. C. Graham, of Toronto, and A. Van Harlingen, of Philadelphia.

Treasurer.—Dr. G. H. Rohé, of Baltimore.

Secretary.—Dr. W. T. Alexander, of New York.

Mr. Jonathan Hutchinson, of London, England, was elected an *honorary member*.

The following were chosen to *active membership:*

Dr. Geo. H. Tilden, of Boston; Dr. A. R. Morison, of Baltimore; Dr. F. C. Curtis, of Albany; and Dr. L. N. Denslow, of Minneapolis.

The Association then adjourned to meet again on the last Wednesday in August, 1885, at the Indian Harbor Hotel, Greenwich, Connecticut.

CORRESPONDENCE.

THE INTERNATIONAL MEDICAL CONGRESS.

Section of General Pathology and Pathological Anatomy.

(From our Own Correspondent.)

Copenhagen, August 17, 1884.

The Section was opened under the presidency of Prof. **Reisz**, of Copenhagen, at 10 A. M., August 11th.

The first paper was entitled *Necrosis by Coagulation*, and was read by **Prof. Weigert**, of Leipzig.

Necrosis by coagulation is a process in which tissues are transformed into a substance resembling coagulated albumen; this change has been compared to that forming fibrin and cheese. The change, however, was not explained correctly, being confounded with those in the fibrin of the blood, or in which cheesy change occurred with desiccation and inspissation of the dead tissues. The parts coagulated should be dead, and also have the signs of coagulation from a macroscopic aspect; microscopically this change is characterized by the loss of the cell-nuclei, which, however, may also occur in putrefaction. The following conditions are necessary for this coagulation, viz.:

1. The organs must contain substances capable of spontaneous coagulation, as in all the protoplasms.

2. They must be dead—the coagulation is the *result*, not the *cause;* the latter may be ischæmia, trauma, chemical agents, or microörganisms. The victims may

be either whole organisms (extrauterine pregnancy), or parts (infarcts, diphtheria, cheesy parts of tuberculosis, abdominal typhus, tumors, etc.), or cells (necrosis of kidney epithelium or leucocytes).

3. The dead and coagulated tissue must be in intimate connection with plasma fluids; in order to be this they must be either in the interior of the organs or supplied with living vessels.

4. Agents opposed to coagulation (putrefaction, purulent poisons) must be absent. The fate of these coagulations is softening, calcification, and formation of hyaline substances (waxy degeneration, coagulation of renal epithelium). This hyaline is, however, not a special product.

Macroscopically the tissues resemble the normal ones.

PROF. VIRCHOW differed from Prof. Weigert's views, which he declared were somewhat obscure. He objected also to the name, which might lead to the belief that the death of the tissues is brought about by the coagulation; a better name would be coagulation of mortification. He would rather call it an *Inspissation.* The main question appears to be whether the substance was originally fibrinous material or not; in the latter case, it will not turn to fibrin. The first act in a coagulation is the loss of liquid, which is independent of plasmatic fluids. The fluid does not penetrate, only the water in the tissues is not held, owing to a loss of vitality (plants, infusoria). The retention of liquid in tissues is an act of vitality. We do not know the reason, but believe that the loss of liquid is a sign of lessened life. He does not believe that the change of tissues to the hyaline substance necessitates the absorption of liquid (death of echinococcus). In the dead fœtus also the first occurrence is the absorption of the amniotic fluid. There is no coagulation, but an inspissation; no fibrin is formed. The intercellular spaces disappear more and more, and the external parts may possibly be subjected to a fatty degeneration. The interior parts, however, do not change (*vide* a placenta which he had seen, which had been forty years in the uterus). A parallel might be found in a coagulation of blood found in muscular hemorrhage, where the blood finally is converted into a cheesy mass formed of a compact agglomeration of blood-corpuscles (he had seen it five years old). This is surely an inspissation, no coagulation or new substance.

Regarding the changes in the cells, we find a similar one in carcinoma, when they shrink, the tissue then becoming denser and presenting a homogeneous appearance. He admitted a chemical change in cheesy metamorphosis different from lymph. He could not see any progress in Prof. Weigert's explanation. His view would be important if the process commenced with coagulation, and was followed by death. It would also make a great difference, if the muscles disappeared first and not after the death of the tissues.

PROF. WEIGERT said the name was suggested by Prof. Cohnheim. He had avoided the word fibrin in describing this coagulation, because fibrin is a chemical term. He was totally opposed to the explanation by loss of liquid.

PROF. VIRCHOW used the word inspissation.

PROF. WEIGERT might admit partially this word. The loss of liquid, however, is not the primary act, as it would be followed by a loss in size; which is not the case (caseous degeneration of lymphatic glands). In tumors which undergo cheesy degeneration or cheesy pneumonia the cells or affected parts are not smaller than before the change. The loss of liquid or size is a subsequent occurrence, which is independent of the coagulation. The nuclei do not disappear in mummification either.

PROF. VIRCHOW remarked that cheesy glands diminish in size.

DR. C. J. SALOMONSEN, of Copenhagen, read a paper on *The Effects of the Infusion of Jequirity.* The ophthalmia caused by jequirity is the result of a chemical poison, which probably belongs to the group of "soluble ferments." The active principle has received the name of jequiritin. The bacteria which are always found in the jequiritin infusions prepared without special precautions have no importance in the causation of the ophthalmia. Such an "ordinary infusion," injected into the dorsal sac of a frog, other conditions being equal, causes death, the time of this fatal result being in direct ratio to the strength of the solution. A "sterile infusion"—*i. e.*, devoid of bacteria, has the same result. The blood of frogs killed by the former infusion is always filled with an enormous quantity of bacteria, while with the latter solution their number is very small. These bacteria do not belong to any particular species, and in the same frog different species may be found. They are not virulent, and injected into the dorsal sac of the frog, or instilled into the conjunctiva of the rabbit, they produce no sensible result. The principle which causes the death of the frog is the same which affects the conjunctiva of the rabbit—*i. e.*, the jequiritin. The blood of frogs which have been killed by a strong infusion of jequirity, produced on injection into the frog a fatal jequiritin intoxication, and with the rabbit the usual ophthalmia. The same does not obtain when the blood of a frog killed by a weak infusion is used. The numerous non-virulent bacteria which are found in the blood of frogs killed by an ordinary infusion originate in this, and by using special care in selecting the bacteria any species of bacillus may thus be multiplied without affecting the final result. But they are not virulent unless mixed with an infusion of jequiritin, and do not multiply in the sac of a normal frog, which has the faculty of eliminating them. The limited quantity of bacteria found after the use of a "sterile infusion" originates probably from the accidental introduction through the liquid covering the frog at the time of inoculation; they do not seem to preëxist in the blood. Dr. Salomonsen's conclusion is, therefore, that after the injection of an "ordinary infusion" the frogs die from a poisoning by jequiritin accompanied by a considerable invasion into the blood of non-virulent bacteria; a poisoning complicated with pseudo-infection and simulating an infectious disease. Rabbits, mice, and chickens killed by an injection of jequiritin, therefore, die from jequiritin poisoning, and not from a disease of bacterial nature. Neither the blood, nor the products of inflammatian in these animals have any infectious qualities.

PROF. CORNIL, of Paris, remarking upon these views, said there was no absolute proof of the existence of an alkaloid such as jequiritin. He found it very difficult to make an absolutely sterile infusion, but succeeded by filtering through porcelain, and found no bacilli under the microscope. This infusion he injected without producing any toxic results. If the active principle was soluble in water, the effect should have been obtained. The substance left in the filter, however, was found filled with bacteria, and caused intoxication by injection. These bacteria he had cultivated, and even in the fourth culture obtained toxic symptoms. The sterile liquid, after being exposed to the air, caused death within twenty-four hours. He heated a jequirity maceration, when it became non-virulent, but on adding bacteria it became toxic. He, therefore, believes that the bacilli are the active principle.

Dr. Salomonsen replied that he had not said the bacilli had nothing to do with the intoxication, only that they were innocuous in a *sound* animal; as soon as the fermentative action of jequirity has taken place they become toxic. As to jequiritin being only a name, he admitted that, like all soluble ferments, it is not chemically well defined. Regarding the filtration, the ferment might be retained on the filter as it is in dialysis, hence the filtered infusion might be devoid of it; consequently that argument is not conclusive, to establish it it would be necessary to obtain a sterile liquid, filter it, and then fail.

The next article was on the *Staining of Bacteria in Sections*, by **Dr. Chr. Gram**, of Copenhagen. The purpose of the paper was to show that the bacteria of pneumonia and typhoid fever can easily be stained by dipping them in a concentrated solution of gentian violet, and then fixing the color in a one per cent. watery solution of corrosive sublimate. He reported that Dr. Friedlander succeeded in obtaining excellent staining of sections with coccobacteria by immersing them in a solution of 1 part of fuchsin, 100 of distilled water, 5 of alcohol, and 2 of glacial acetic acid, after which they are washed first in alcohol, and then during two minutes in a two per cent. solution of acetic acid, subsequently cleaning them as usual in alcohol and oil of cloves.

Prof. Malherbe, of Nantes, then read a paper on the pathological anatomy of *Painful Subcutaneous Tubercles*. This disease is rare, he has only seen it five times in ten years (syn. painful fibroma). The tumors are from the size of a lentil to that of a filbert, and are noticed by the extreme sensitiveness to touch, which gradually turns into a spontaneous neuralgia. Their usual seat is in the vicinity of the malleoli and the knee, and they generally occupy the deeper layer of the skin, or the subcutaneous tissue. Anatomically they are composed of organic muscle-fibres, crossing each other in every direction, encased in a thin capsule. No nerve-filaments were discovered. Extirpation gives immediate and permanent relief.

Prof. Pasteur, of Paris, in general session, read a paper on *Morbific Microörganisms and Vaccinia-matter*. He was most enthusiastically received. He first referred to the advances made in the study of microörganisms since the last Congress. Three years ago, at London, no one thought of believing in the microbic origin of contagious diseases. From that time also dated the doctrine of attenuation of virus by the culture of the microbes, the discovery of the anthrax vaccine, and the cholera bacillus. Four years ago he commenced his studies of hydrophobia, which, owing to the length of incubation in the animals operated on, became protracted. He would give to-day his results. Of course, in a dreadful disease like hydrophobia, the first thought was to find a remedy, but in order to discover this the nature of the disease had to be known. Numerous dissections of dogs which had succumbed to the disease, showed that its seat was in the brain and spinal cord, but more especially in the medulla oblongata, this latter being constantly affected. Foci of inflammation were found in different parts of these organs, and were in direct proportion to the severity of the case. The principal seat of the poison is in the subarachnoidal space. The arachnoid liquor, which never fails in inoculation, was used for experimental purposes, and trephining employed to lay bare the dura mater, under which the virus was injected by a Pravaz syringe. This is the only absolutely certain mode of inoculation. Thanks to this positiveness of results, he could advance with his experiments on a sure basis. This mode of inoculation also shortened the period of incubation, a matter of great moment in such lengthy experiments. The duration of incubation was found to be in direct proportion to the quantity of virus introduced.

Here Prof. Pasteur gave the results of numerous experiments, mentioning each, a relation of which would prolong this account too much.

He found that in rabbits, after subarachnoidal inoculation, the time of incubation at the first injection varied from fifteen to twenty-one days, never more and never less. Virus taken from the first rabbit would lead to rabies in a second in twelve days, the next ten, the next eleven, until the twenty-first inoculation, when to the fiftieth there was an absolutely fixed incubation of ten days. Guinea-pigs have an incubation of five days—five or six cultures lead to the maximum of virulence. Monkeys have an incubation of twenty-three days, virus obtained from them caused a longer incubation in the rabbit, and by passing a number of times from rabbit to monkey the activity of the poison, instead of increasing as it did in direct transmission in the rabbits, became lessened and the time of incubation lengthened. The microbe of hydrophobia has not yet been discovered.

He then gave an account of his last great test of the efficacy of this attenuated virus. A distinguished commission was assembled in Paris to examine into his experiments, and to these gentlemen he delivered twenty-three vaccinated dogs, sixteen of which had been vaccinated by trephining, the remainder hypodermically. These dogs were at different times shut up with rabid dogs and were frequently bitten—a certain number of unprotected dogs were treated likewise. All these experiments were made a short time ago. The result was that of the vaccinated dogs none suffered any ill-effects, while already four of the unprotected dogs have died from rabies.

This is only a sketch of a discourse which lasted an hour and a half, and was followed with the closest attention and frequent loud applause.

The work of the Section was resumed on Tuesday, at 10 A.M., with a paper by **Prof. Raymondaud**, of Limoges, on the *Ixodes, a Parasite but Little Known in the Human Body*. He exhausted the natural history of the different species of ixodes (tick), and related a few cases in which the bite of this arachnid was followed by ulceration, and in one case it was supposed to have caused death. The paper was very exhaustive, but scarcely belonged to the class of subjects which one would expect to find discussed in such a galaxy of pathologists as were present.

The discussion was opened and closed by Prof. Virchow, who, with his incisive humor, remarked that the animal was very common in Germany, that when it had fastened in the skin it was lifted out with a needle, and that he had never heard of any ill-effects resulting.

This paper was followed by one from **PROF. HELLER**, of Kiel, on *The Heredity of Tuberculosis.* He said that the views held up to the present time, that tuberculosis can be transferred to the fœtus at the moment of fecundation or during its uterine life, is no longer tenable. The proofs heretofore adduced in favor of the old theory can be explained otherwise. There is a possibility of this transmission, but facts speak against it. He based his view on observations made in 1300 cases. Tuberculosis is, if it ever occurs, very rare in the fœtus and the new-born child up to the end of the first few weeks. It appears only toward the end of the second month after birth, and its frequency rapidly increases from that time. The mode of its conception speaks against the supposition of intrauterine origin. When apparent cheesy degeneration of the lungs was observed in the fœtus, it was generally found to originate from hereditary syphilis.

A certain predisposition, however, must be admitted in the progeny of tuberculous parents, but it has been contended that when the child was not allowed to nurse from such a mother, the chances were in favor of its immunity.

Prof. Heller then related a case of pregnancy in a tuberculous mother, who died before giving birth. The fœtus was perfectly sound—the mother suffered from general tubercular degeneration of all the organs, even the uterus was degenerated, and a preparation, exhibited under the microscope, showed large quantities of tubercular bacilli in the epithelial cells.

The discussion was again opened and maintained by **PROFESSOR VIRCHOW**. He said that thirty years ago he had disputed the heredity of tuberculosis. He, however, admitted the predisposition. He had not seen a single case of direct transfer in the fœtus; where there seemed to be such an appearance, it would only be an isolated case of spontaneous origin. He would like to have a closer definition of the term predisposition. Thirty years ago it was explained on the principles of humoral pathology, but he did not attribute it to the blood—rather to a lessened power of resistance in the tissues. He desired to talk again on the subject. He believed that the key could be found in the peculiarities of the lymphatic system, which varies in every individual. It evidently, under the influence of this weakening of the system, deteriorates from one generation to another, until, as we have often seen, whole families are wiped out of existence; fatal results appearing at a more and more early age.

PROFESSOR HELLER remarked that he had not denied the heredity of the *predisposition*, only the direct transmission of the disease to the fœtus. He believed, however, that the mucous membranes have more to do with the susceptibility to the infection, and that persons with rapid changes in their mucous membrane will be more apt to throw it off than those whose membranes are not active.

The next paper read was by **DR. GRANCHER**, of Paris, on the *Relation between Scrofulosis and Tuberculosis.*

PROF. PASTEUR here entered unostentatiously, but was vociferously applauded, and conducted to the presiding chair.

After giving a historical review of the history of scrofula and tuberculosis from the sixteenth century to the time of the doctrines of Virchow and Borzin, in 1860, Dr. Grancher showed that by the aid of pathological histology and the knowledge of the different phases of evolution of the tubercle, the domain of tuberculosis has been enlarged at the expense of scrofula, and has absorbed fungous osteitis, lupus, and cold abscess. The discovery of the virulence of the tubercle and of the tubercle bacillus has completed the demonstration.

There is nothing left to scrofula but a few skin diseases like eczema and impetigo, and a few diseases of the mucous membranes which scarcely display more than a morbid disposition. The researches of Dr. Grancher were mainly directed toward establishing the question if the discharge of these skin diseases, especially impetigo, or inoculation would produce the changes of tuberculosis. The experiments were made on the guinea-pig, and were negative, while in every instance control-injections of tubercular matter produced tuberculosis. He related twenty-three experiments, twenty-one of which remained negative as far as discharges derived from impetigo and mucous secretions were concerned; in two cases, however, caseous degeneration took place, but it must be remarked that in these cases the virus was not taken from the impetiginous discharge, but from an adjoining small abscess.

The discussion was opened by **PROF. LANGALLI**, of Pavia, who remarked that many diseases declared by physicians as scrofulous are really tubercular, such as osteitis, periostitis, etc. He believed that there is no difference in the lymph-ganglia of tubercle and scrofula, and that the lymphatic bodies in both assume the same changes, and that giant-cells and bacilli are found in both. He believed that scrofula is the prodrome of tubercle, and will end in it if not cured, and that it has its origin in disorders of the digestive organs.

PROF. CORNIL, of Paris, believed that the discovery of the bacillus settles the question of identity between scrofula and tubercle. Dr. Grancher's failure in two cases to prove immunity of the scrofulous discharge is probably due to the fact that the abscesses from which the virus was taken were of tubercular character. He believed that what mostly ought to be kept in mind here is that many diseases which formerly were classified with scrofula are now known to belong to tuberculosis.

DR. GRANCHER mentioned that probably the only difference between the two diseases is that one is caused by an "exalted" virus, while the other is the result of an "attenuated" virus, a view which is entirely supported by the researches of Prof. Pasteur; but he believed that this Congress will not bring this question to a conclusion.

PROF. WEIGERT, of Leipzig, did not believe in this theory of attenuation. He thought that the disease is localized in the lymphatic glands. In children, changes take place in these glands without being of tubercular nature; with adults, tubercular disease occurs without implication of the glands. The former, he claims, is due to the capsule of the gland, which prevents the dissemination of the disease, while in adults the bacilli are absorbed through the mucous tracts. In adults tuberculosis appears first in the apices of the lungs, in children in the hilus, the latter caused by the eventual perforation of the capsules of the lymphatic glands around the hilus, and the favorable prognosis in children must mainly be based on localization, and not on attenuation.

DR. GRANCHER thought this view reasonable, but found the following objection to attributing the difference in the two diseases to age: 1. Scrofula is not confined to the child. 2. Adults have diseases of bony tissues, which usually pertain to childhood. 3. Children are not free from tuberculosis. Besides, the histological differences are very pronounced. He did not mean to say that vaccination of attenuated virus would protect against tuberculosis.

PROF. WEIGERT desired to state that he did not mean to convey the idea that only children have localization, but that most frequently such is the case.

During the general session in the afternoon **PROF. VERNEUIL**, of Paris, read a paper on the *Neoplastic Diathesis*. He attempted to prove by ingenious arguments, based on clinical observations, that all neoplasms which are not the result of a specific disease, are the result of a diathesis, which, according to the peculiarity of the individual, will in one case produce sarcoma, in another lipoma, in another cysts, etc.; that the number of neoplasms has nothing to do with the diathesis, and that the diathesis may produce neoplasms of different character in the same person, the whole of them partaking of the nature of a hyperplasia of the normal tissues; that their cause is pathological, the growth physiological, the immediate existing cause being either irritation, or of an idiopathic character.

PROF. CORNIL, of Paris, then read in the Section a paper on *Chronic Nephritis*, especially on the relation of the changes of connective tissue, parenchyma, bloodvessels, and heart in this disease. His views can best be condensed by giving his classification of the different kinds of albuminous nephritis:

1. Diffuse nephritis with—

a. Predominance of congestive and inflammatory phenomena. *b*. Predominance of diapedesic phenomena. *c*. Predominance of degenerative lesions.

2. Diffuse subacute and chronic nephritis with—

a. Predominance of lesions of glomeruli. *b*. Predominance of lesions of epithelium. *c*. Predominance of lesions of interstitial tissue.

3. Interstitial nephritis or necrosis.

a. Cirrhosis of glandular origin. *b*. Cirrhosis of vascular origin (interstitial necrosis proper).

Prof. Cornil presented original researches on interstitial nephritis artificially produced in animals by lead poisoning. The kidneys show on transverse section of the pyramids in the centre, a fibrous zone with atrophic tubes, in the periphery a zone formed by the glomeruli surrounded by interstitial tissue and an intermediate fibrous zone with urinary tubuli, part of them atrophied, others almost sound, constituting the granulations prominent on the surface of the kidney. The elimination of the lead salts and the resulting deposits of calcareous salts are the cause of the chronic inflammation which terminates in atrophy of the epithelial cells. In the commencement the bloodvessels are normal, and their walls become thickened only after the renal sclerosis is already well advanced. Albuminuria is not present in the guinea-pig, in the human being it may or may not be present; but in the chronic saturnine nephritis of the latter, coexisting with albumen, he found cellular lesions analogous to diffuse nephritis. Sometimes cysts form at the expense of the dilated tubes. The vessels which pass through the sclerotic tissue are in themselves sclerotic, but the larger arteries are not affected. Coexisting, he often noted hypertrophy of the left side of the heart, and deposits of sodium urate in the articular cartilage, especially in the phalango-metatarsal joint of the great toe, resembling those of gout.

SIR WILLIAM GULL presented a paper on the same subject. After introductory remarks on the fallacy of Bright's views that renal lesions are always of one form and character, have local origin, and are the source of the systemic lesions which are associated with them, with a vague idea that albuminuria indicates one pathology, the speaker attributed to an arterio-capillary fibrosis, which may begin in any part of the vascular area, the cause of nephritis. This, even with cardiac hypertrophy, may precede defect of renal functions. In this cachexia the intima and adventitia of the arterioles and capillaries are changed by fibroid or hyalin-fibroid deposit. The muscular coat is thickened. Death may occur from cerebral hemorrhage with cardiac hypertrophy, whilst the kidneys are found but little affected. The fibroid change in the kidney has no acute, inflammatory beginning, and its early stage is coexistent with vascular changes in other organs. The same condition of the vessels is found in other organs, as the lungs, stomach, skin, with or without renal disease, proving that the renal change has common characters with those more widespread through the organism. The hypertrophy of the heart is to be attributed to loss of arterio-capillary elasticity and hinderance to interstitial circulation of plasma; whilst in the cases in question the arterio-capillary changes cannot be referred to the kidney as their source, it still remains to be determined how far a change, beginning in the kidneys, may promote a cachexia inducing arterio-capillary fibrosis.

PROF. HELLER, in about one hundred cases, had not found the fibrous thickening.

PROF. PRÉVÔT found incrustations with calcareous salts (calc. carb.) in the kidneys in consequence of mercurial poisoning, with lessening of urinary secretion. In saturnine poisoning he found the same in the form of phosphates of lime.

PROF. CORNIL remarked that Sir W. Gull had left the domain of special pathology to discuss the subject from the point of view of general pathology. Special pathological researches cannot be formulated in that manner. Sclerosis commences in the walls of the tubes, and from there proceeds to the interstitial tissue and is of an epithelial origin. He cannot consider saturnine nephritis as a result of arterio-capillary sclerosis, as it is characterized at its outset by infarctions caused by elimination of lead salts and also by cell lesions; then come atrophy, collapse of the tubes, and the condensation of the connective tissue. Only long after this we observe the chronic arteritis. Considering that a rational classification of lesions has to be based on the origin and development of disease, Prof. Cornil adheres to his view of two varieties of renal cirrhosis—that of glandular origin (saturnine and gouty nephritis), and that of vascular origin.

Prof. Mahomed, of England, believed the change to be due to contraction of the arteries and consequent slowing of the movements of the blood corpuscles. This may be transient, but also chronic, as in gout, dyspepsia, saturnine poisoning. The first factor is altered blood, then come the changes in the kidneys, and, last, those in the vascular system.

The next paper was that of **Prof. Chauveau**, of Lyons, on the *Possibility of Animal Tuberculosis becoming a Source of Human Tuberculosis.* Nothing is easier than to communicate tuberculosis to the animal; the guinea-pig and rabbit are especially susceptible; only the horse and donkey are refractory. Few species, however, produce idiopathically tuberculosis—only the pig and the beef. In the former it is exceedingly rare; in the beef, however, frequent—about one and a half per cent.—consequently this latter animal alone may be considered as possibly dangerous in that respect. He introduced tubercular infection from the beef into calves by way of the stomach (mixed with food), and they all became tubercular; any other pus was inert. It is therefore proved that the disease can be propagated from beef to beef. To prove the unity of tubercular matter in beef and human species, disputed by Virchow, calves were fed from human tubercular pus, and infection was the result. There is consequently a great danger of infection from the beef. This may be communicated in three ways: by the eating of beef, the use of milk, and animal vaccination. Statistics on the first are not complete, but lean rather to the negative; on the second we will hear a paper from Prof. Bang, with which he coincides; he will here principally speak of the third.

The first reason for bovine vaccination was to avoid the danger of syphilis. This practice has a great advantage on that account. He has made experiments as to the possibility of inoculating tuberculosis in using bovine virus. He injected vaccine matter from a tubercular cow into pigs and rabbits, and they all died from tuberculosis. Experiments on guinea-pigs vaccinated with vaccine virus from tubercular persons had negative results. Tuberculosis is very rare in young calves. He found it very difficult to produce it in animals by superficial scarifications as practised in ordinary vaccination. In five cases vaccination on erosions or by subcutaneous injection was negative as far as producing tuberculosis in calves; the same results were obtained in the guinea-pig. His conclusion was that if there is a possible danger of introducing tuberculosis by bovine virus, it is almost entirely neutralized by the nearly total impossibility of communicating it through the usual process of vaccination.

Prof. Vallin, of Paris, found that *localized* tuberculosis in the beef does not produce tuberculosis in the guinea-pig on injection of the macerated juice of the muscular tissue. He stated that according to Prof. Chauveau's percentage of tuberculosis in beef, there were consumed, in Paris, last year over ten thousand tubercular beeves, slaughtered there (not counting the imported meat), and that only eleven carcasses were rejected by the inspectors for that cause.

Prof. Salomonsen caused tuberculosis in the guinea-pig by injecting tubercular matter into the anterior chamber of the eye, but *blood* from tubercular animals, injected in the same manner, gave negative results. Injections into the peritoneal cavity of a guinea-pig with tubercular blood from another were likewise negative.

Prof. Chauveau had made many experiments on the virulence of the *blood* in tuberculosis, and found that it is not virulent. He has had the same experience in glanders, where injection of the lymph reproduced the disease, but blood did not. The same in variola of sheep. His experiments on the juice of meat are not completed and are not so conclusive. Meat juice from tubercular beef, injected into a large number of guinea-pigs gave negative results, while matter from tubercular lymphatic glands caused tuberculosis in every case. Cooking for one hour at 70° R. did not destroy its virulence; at 100°, with one-half hour's cooking, however, it was lost.

Prof. Cornil thought that the same obtains with the vaccine matter as with the blood, and that the question of possibilty of tubercular infection by vaccine lymph, must be decided in the negative.

The next paper was by **Prof. Bang**, of Copenhagen, on *Tuberculosis of the Udder of the Cow.* This is not rare. He has seen twenty-seven cases; seven during the last seven months. The diagnosis is easy. A diffuse, painless, gradually hardening tumefaction of usually one-quarter of the udder takes place, without impairment of health or decrease in the quantity or appearance of the milk (this is important because this milk already holds tubercular bacilli, and is still used as food. When bacilli are associated with spores, according to Koch, they resist the action of the gastric juice). Gradually, usually not before a month, the secretion of the gland assumes a watery, flocculent appearance, but is not purulent. The animals generally perish inside of three months. Injection of the milk produced death from tuberculosis in rabbits in from two to three months. The later serous secretion caused fatal results from tubercular peritonitis in twenty days. Experiments of feeding rabbits on this milk have not yet been concluded. He found that milk from a tuberculous cow, without localization in the udder, was virulent. Heating to 212° F. destroyed the vitality of the bacilli.

Prof. Heller, of Kiel, then made some remarks on *Congenital Syphilis of the Lungs*, illustrated by sections under the microscope. The main anatomical change found is a capillary hyperplasia in the interstitial tissue, with hypertrophy of the right ventricle. The children usually die before the end of the first year.

Dr. Nelson, of New York, presented a paper on the *Culture of Diphtheritic Microbes.* He assisted last November in tracheotomy on a diphtheritic child. A membranous cast was removed. The child died thirty-six hours later. He inoculated one of Sternberg's culture bulbs with some of the membrane. (For culture, the bulbs should be kept at 100° F. for several weeks.) In four days the sterile liquid became cloudy, and with 1000 diameters, immense quantities of micrococci similar to those of pus were found, which he propagated successfully through ten generations. This propagation usually took ten days. He inoculated three guinea-pigs in the anterior chamber; one died in thirty-six hours. two were killed in three days. In all the eyeballs were destroyed, and micrococci were discovered in large numbers. He believes that there is a micrococcus of diphtheria which will reproduce the disease in guinea-pigs.

The last discourse was by PROF. VIRCHOW, on *Forms and Causes of Hepatitis.* While in nephritis the arteries play the principal *rôle*, in hepatitis the veins are the affected part. It is difficult or impossible to follow the changes proceeding from the capsule of Glisson to the nervous and arterial system, but he believes that a chronic fibrosis affects the veins and bilious ducts. This fibrosis is unequal; the liver has a tubercular surface, the depressions being the result, the tubercles the original line. This is particularly striking in syphilitic forms. For localization of the latter some natural factor may be the determinining cause; as we find a gummatous tumor originating from a contusion of the forehead, so in the liver the minute superficial ruptures caused in concussions, especially along the ligaments, may be the exciting cause, and these changes are also mainly found along these ligaments; other causes for these localizations are so far not known. Those who reduce all affections in anticipation to microbes, may also find an explanation, without actually demonstrating the microbes. In opposition to this view, he gave examples in which the predisposing cause is a *chemical* poison. Thus minimal doses of phosphorus will produce a cirrhotic condition of the liver (experiments on chickens). But even here the actual cause is unknown. The cirrhosis is uniform in acute phosphorus poisoning, while in the chronic form its distribution is irregular. We may find a parallel in the malarial liver. In common with syphilis, it appears in different forms, but has not the large foci of the syphilitic liver, and might best be likened to a general induration, and it may become granular with irregular distribution. It has also frequently a melanæmic appearance, leading to possible confusion with putrefaction. Frerichs believed this to be a result of embolism, but Virchow has examined many cases, and found only the usual contents of the vessel, but there was a melasma with black connective tissue due to pigment in the cells. This may be produced by other causes than malaria, but he knows of none. Here, also, the reason why it is unequally distributed is not known. He also referred to alcohol as a cause for fibrosis. We have, therefore, four different causes for bringing about parallel changes, viz., syphilis, phosphorus, malaria, and alcohol.

One more point is important. Cirrhosis frequently occurs with chronic peritonitis, often also with the appearance of tubercles, which, however, have no tendency to produce the cirrhotic change, and differ from the appearances in general tuberculosis. These simple forms are complicated in many ways in nature.

As to predisposition, it may be found in the peculiarities of the anatomy differing in every individual in the normal state, especially as to the size, and, consequently, the number of the acini and their supply of capillaries (different arrangement and quantity of vessels). This will explain the fact that the diseases originating from the same cause show various effects in different individuals. We must always consider the cause by itself, and the local result by itself.

In reply to a remark of Dr. Fränkel, referring to hyperplastic changes, Virchow said that he had seen both in the same case, resembling externally carcinoma.

PROF. HELLER mentioned that he had also seen the so-called hypertrophic form without apparent tendency to shrink, with no malaria for a cause. Another possible cause which has not been mentioned is strong spices, which, he believes, may irritate the liver.

This last discourse of Prof. Virchow having been made without notes, was, as usual under such circumstances, at times disconnected, and it was difficult, often, to follow the main thread.

THE SECTION OF DERMATOLOGY AND SYPHILIS.

(*From another Correspondent.*)

COPENHAGEN, August 17, 1884.

THE Section of Dermatology and Syphilis opened at 9.30 A.M., with THE PRESIDENT, DR. HASLUND, of Copenhagen, in the Chair.

PROF. DOUTRELEPONT, of Bonn, read a paper on *Lupus Vulgaris*, holding it to be tubercular in origin and nature. The discussion was participated in by Leloir, Kaposi, Neisser, Unna, and others.

PROF. KAPOSI held that we must distinguish between lupus vulgaris and tuberculosis of the skin; that they are two separate diseases. Of the latter he had seen thirteen well-marked cases, ten in the clinic, and three in private practice. Prof. Pick agreed with Kaposi. Leloir thought, with Koch, that there was a bacillus in lupus; and Neisser, Doutrelepont, Unna, and Lipp concurred in this view.

On August 12th, PROF. KAPOSI occupied the Chair. The first paper was by Dr. Armauer Hansen, of Bergen, on *Norwegian Leprosy, its Etiology and Pathology.* He presented three marked cases which he had sent to the meeting for exhibition, from Norway. One was especially interesting, as showing the results of the disease, having the phalanges of both hands and feet greatly distorted, with even a loss of several. The muscles of the face were so atrophied as to make it impossible to bring them into action, and the eyes remained widely separated even during sleep. He observed a vast difference between the knotty and the smooth variety. The course is regular until anæsthesia sets in, when he could stick a knife into the patient without the least pain. Even limbs could be amputated without pain. Patients with the knotty variety may die of the disease, the usual course being to succumb to the sequelæ. There are various clinical phenomena which speak for the contagious character of this disease. "Looking toward the etiology, it must be remarked that inheritance and contagion bar each other; so that we have no contagious disease which is at the same time inherited." The bacillus lepræ has not yet solved the question, but has shown as quite probable the contagious nature of the disease. Isolation is the best preventive measure, as was shown by a series of statistics.

PROF. ZAMBACO, of Constantinople, presented a number of plates illustrative of leprosy.

PROF. PICK, of Prague, read a very exhaustive paper on *Excision of the Initial Sclerosis of Syphilis.* He cited many cases to substantiate his views, and came to the conclusion that excision should be done even in doubtful cases, so as to give the patient the benefit of the doubt. Besides, a clean cut heals by first intention, whereas the sore, if left, or otherwise destroyed, will remain indefinitely.

Dr. Pontoppidan demonstrated the views of Prof. Pick in several cases, and coincided in the opinions he expressed.

Prof. Martineau, of Paris, said we should be very careful to diagnosticate between induration and sclerosis, and not cut every case.

The Section adjourned to meet on the 14th, when **Prof. Pick** occupied the Chair.

Dr. Grunfeld, of Vienna, exhibited an *Endoscopic Case* of his own design, with various sized tubes and a mirror such as is used by laryngologists. He showed, by drawings, how different portions of the urethra presented different pictures, and each very characteristic of its situation.

Prof. Liebreich, of Berlin, read a paper on the *Treatment of Syphilis by the Injection of Mercury*, and made many interesting chemical tests to prove which salts of mercury were the best to use. He thinks that besides corrosive sublimate, formic acid is the best. When mercury ceases to act, the original susceptibility can be restored by a good diet with an abundance of salt, when more of the mercury will be again absorbed.

Dr. Wulff, of Strasburg, said it should be our object to select a remedy that would be as nearly painless as possible, and that we should recollect that besides the disease we still have a patient to deal with. Profs. Martineau, Bergh, Lipp, Neisser, Kaposi, and others, did not favor the injections as being better than other methods.

Prof. Kaposi said the injections appear at first to be the best, but after a while they lose their effect, whereas inunctions do not give at first such brilliant results, but by-and-by they prove more satisfactory, and in the end achieve better results. After considerable discussion it seemed to be the prevailing opinion that no one method was yet settled as *par excellence* the best.

On Friday, August 15th, **Prof. Doutrelepont** occupied the Chair.

Prof. Lang, of Innsbruck, presented a paper on the *Combination of Carcinoma and Gummata.* He showed a series of photographs and diagrams to illustrate his views, and one case, he said, was undoubtedly marked. He had been unable to find any history of cancer, or the existence of it before the appearance of the gummata, and was of the opinion that it came on after the latter had healed.

Dr. Barthélemy, of Paris, then read a very interesting communication on the *Visceral Manifestations of Late Hereditary Syphilis.*

Prof. Neisser then spoke of the *Period of Cessation of the Contagion of Gonorrhœa.* He said it was difficult to settle such a question unless we know absolutely the last act of coitus, and as long as the bacillus exists it is contagious, and he would not advise marriage. He thought probably three months long enough.

On Saturday August 16th, **Prof. Thin**, of London, occupied the Chair. As this was closing day, he requested that the debates be limited so as to allow all papers to be read that were on the programme.

Prof. Janowisky, of Prague, read a paper on *Iodoform-exanthem*, and he reported that he had seen many cases the result of the absorption of the drug.

Prof. Haslund had used iodoform very extensively, but had only seen one marked case, which occurred on the third day after the extirpation of a bubo, and the wound was packed with iodoform. There was no fever, at first vesicles appeared, then pustules, and in a few days these dried up.

Dr. Haslund, of Copenhagen, read the closing paper on the *Pathogenesis of Gonorrhœal Rheumatism.*

Prof. Doutrelepont, in the Chair, then thanked the President, Dr. Haslund, and the secretaries for their services, and again wished to renew his thanks and that of the members to the committee for their successful management of the Congress. The Section then adjourned.

THE BERLIN LABORATORIES.

Berlin, August 18, 1884.

A short account of the Berlin laboratories, the work of which has a direct bearing upon medicine, may possibly prove interesting to the readers of The Medical News.

And first of all, of chemistry, to which directly and indirectly medicine owes so much and to which in the future, possibly the near future, it is likely to owe much more. There are several good chemical laboratories here in which a "mediciner" may work. That of Prof. Hofmann, on account of the fame of its "director," is filled and more than filled. The regular lectures on chemistry are given three times weekly, in sessions of two hours each. They are most admirably illustrated by experiment, and the subjects dealt with rendered very clear, in fact, some think there is an excess of simplification, but this is a good fault, if fault it be.

It is well for any foreigner, who may wish to obtain a place in this laboratory, to know that it will be necessary to apply long before the expected period of work, and even then he may find, as I did, that a place in "Hofmann's Laboratory" does not mean necessarily a place under Prof. Hofmann himself. I was, in fact, consigned to another department of the laboratory which the distinguished professor himself never even visits so far as I know, and which is presided over by another professor. As my own experience of this latter department of the laboratory does not enable me to speak favorably of it, and as such experience may possibly be exceptional, and I sincerely hope it is, I pass this laboratory by without further remark.

I have heard Prof. Liebermann and his laboratory well spoken of, but know nothing of them from personal experience.

Of laboratories for physiological chemistry there are several in Berlin, each of them under the direction of a teacher of distinction. The oldest of these is that in the Pathological Institute in connection with the Charité. It was founded as far back as 1856, at a time when laboratories for physiological chemistry, even in Germany, were very insignificant as a rule, This laboratory is a monument of the insight of the great Virchow, to whom it owes its existence. Even at this early period Virchow could see the relation and importance of chemistry to medicine, which not a few of some standing in our profession seem not yet to realize. Such distinguished men as Hoppe-Seyler and Kühne, have had a connection with this laboratory in earlier days, and it is now presided over by Prof. E. Salkowski, who has recently become still better known since the publication, in conjunction with Leube, of his large and elaborate work on the urine. From personal experience of this laboratory, I can recommend it to anyone wishing to work on medical chemistry, whether physiological or pathological. The Physiological Institute has also an admirable laboratory for physiological chemistry under the direction of Dr. Kossel, who was till recently an assistant of Prof. Hoppe-Seyler in Strasbourg.

It is remarkable how many "practical physicians" still, at the age of thirty-five to forty, manage to maintain a lively interest in physiology, and often undertake investigation either in the chemical or experimental department. Sometimes this work has a direct reference to practical medical questions, and sometimes seems to be done purely to maintain an old scientific love. They have never been, in fact, divorced.

The Institute for Physics under the direction of Helmholtz, that for Physiology under Du Bois Reymond, and that for Pharmacology under Liebreich, are so close together that they form one magnificent and compact pile, only surpassed in beauty by the Military Academy opposite. A course on physiological optics is being given in the Institute for Physics, but the "mediciner," who would get much from this, must be well versed in mathematics. The case is entirely different with another course on physics, viz., that given in the Institute for Physiology by Prof. Christiani. This course is especially designed for the "mediciner," and comprises what is most important for the understanding of experimental physiology, the microscope, etc. The sessions are of two hours' length, and occur twice weekly. The experiments are most admirable and leave little to be desired. The course is modelled somewhat after Tyndall's public lectures, but is still different in that theory is somewhat more prominent, and the mathematics of the subiect are not neglected. However by the use of the *graphic method*, many mathematical formulas, which otherwise would be very difficult for such auditors, are rendered clear. The same remark applies to the more difficult theories, such as the different wave theories. Altogether the course is *unique*, and the teacher of any department of experimental science can get many valuable suggestions as to the best methods of making his subject clear and impressive.

Physiology is in a highly flourishing condition in Berlin. Reference has already been made to the abundant provision made for physiological chemistry. A course of lectures on general physiology is given at the excellent Veterinary School here by Prof. Munk. They are both clear and well adapted to the hearers. The principal course of lectures in the Physiological Institute is given by the venerable and long famous director, Prof. Du Bois Reymond. His lecture-room is large, comfortable, and exceedingly elegant in all its appointments, and the lectures are illustrated with the most beautiful and best adapted apparatus to be had.

Prof. Hugo Kronecker also gives one lecture a week on the physiology of the heart and one on muscle physiology, both in much detail and well illustrated.

In the experimental department of physiology, the laboratory work devolves mostly upon the energetic and accomplished professor just named.

Apart from conducting many special researches, a course on "methods of investigation" in physiology is given. In this course vivisection and the graphic method are taught very much apart, and in general the separation of what may be called the *technique* of physiology from the theory, and the facts of the science observed in this laboratory seem to me worthy of much consideration. How much loss of time and confusion of ideas is avoided by such a course, only those who have seen the reverse method pursued can thoroughly appreciate. I should be glad to see such a separation in some way applied to chemistry and some other departments, for I know of no laboratories in which so much time is simply pottered away as in chemical laboratories. A preliminary course on *technique* or manipulation would obviate much of this and also probably prevent the student from becoming the merely mechanical worker. Prof. Kronecker's full course in "methods of investigation" extends over four semesters or two years. I must not omit to remark upon the exceedingly courteous, in fact cordial treatment, all students, including foreigners, receive in this professor's laboratory. Here, at least, the man and the gentleman are not forgotten in the student, nor lost in the professor.

From what has been said, it will appear that ample provision is made in the Berlin Physiological Institute for the teaching under the best conditions of the physics of medicine, the chemistry of medicine, and the experimental physiology of medicine; and it only remains to add that a full course in histology, etc., is given under Prof. Fritsch, to indicate how thoroughly this Institute deserves its name.

The adjoining pharmacological laboratory under the direction of the well-known Liebreich, is, in the completeness of its various departments, perhaps unequalled anywhere in the world. No expense seems to have been spared to make it as nearly perfect as possible for the purposes, both of teaching and of investigation. A noteworthy regulation exists requiring all students to take a course of instruction in antisepsis, and a special department of the laboratory is devoted to this purpose.

The Berlin Physiological Society has a large membership, and the attendance at the meetings, which are held every two weeks, is uniformly good. Prof. Du Bois Reymond occupies the presidential chair. Abundance of material in the form of papers is forthcoming, and each communication is subjected to the keenest criticism by those well able to discuss any physiological question that may arise.

Other laboratories having a relation to medicine might be referred to. In conclusion, I may be allowed to express the hope that before long the authorities of the Berlin University will see fit to abolish the regulation by which all foreigners, irrespective of age and *status*, are obliged to pay a matriculation fee and go through all the forms (and these are not a few) pertaining to matriculation, before they can participate in the advantages offered by this great University.

T. W. M.

NEWS ITEMS.

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA on Monday evening gave a reception to the members of the British and American Associations for the Advancement of Science who were in attendance upon the Philadelphia meeting. The building was beautifully decorated with flowers and plants, and the Library and Museum were open. Refreshments were served in the Lecture Hall.

This was the first of the series of entertainments provided for by the Weir Mitchell Entertainment Fund.

DR. JOHN G. ADAMS'S MEDICAL BEQUESTS.—Dr. John G. Adams, of New York City, by his will dated June 21, 1881, has left $5000 to the Presbyterian Hospital for a free bed for the sick poor of the Brick Church; $5000 to the Academy of Medicine to pay off the debt on its building (this bequest is revoked by codicil on account of the action of the Academy in reference to the new code); $2500 to the Bridgeport Protestant Orphan Asylum and Hospital; $500 each to the Physicians' Mutual Aid Association, and the Training School for Nurses. His medical library is bequeathed to the New York Academy of Medicine.

THE CONSOLIDATION OF THE MEDICO-CHIRURGICAL COLLEGE WITH THE PHILADELPHIA DENTAL COLLEGE.—We understand that a consolidation of these two schools has been effected, and while each will for the present maintain its separate organization, the students of the former will receive instruction in surgery, physiology, and chemistry at the Dental School, while the dental students will receive clinical instruction in other subjects than dentistry at the former.

CHOLERA MORTALITY AT MARSEILLES.—Dr. Albenois, of Marseilles, in the monthly *Bulletin* of the Bureau of Statistics for July, gives some very interesting statistics relative to the epidemic of cholera in that city. From June 27th, the date on which the disease was recognized as true cholera, to August 4th, the deaths numbered 1311, of which 844 occurred in the city, 163 in the outskirts, and 304 in the hospitals. The period during which the disease seemed to have reached its maximum of fatality, was from July 11th to July 26th, in which period there were 853 deaths, a daily average of 51; from July 26th on there was a marked and steady decrease in the deaths. Of the decedents, 5 were under one year of age, 52 under five; 1029 between five and sixty, and 162 over sixty years of age.

Another interesting point is the mortality among those of different nationalities. Of the decedents, 853 were French, and 330 Italian, the latter paying large tribute to the epidemic, the proportion being 5.70 per 1000, while for the French it was 2.93, and for all other foreigners 1.36 per 1000. Dr. Albenois's explanation of this high mortality among the Italians is, that they are, as a class, extremely poor, and engaged in the hardest and most repugnant work, receiving but small wages, at the same time having large families, and living in the most unhealthy sections, in close and crowded quarters, often deprived even of the necessaries of life, it is then not at all astonishing that they fall easy victims to the epidemic.

During the month there were attributed to diarrhœal diseases 272 deaths. The total number of deaths was 2478; and the annual death-rate 82.6 per 1000

PROF. CARL WEDL.—The Emperor of Austria has conferred the title of "Hofrath" upon Dr. Carl Wedl, Professor of Histology in the University of Vienna, in recognition of his long and useful services to science.

OBITUARY RECORD—JULIUS COHNHEIM.—The closing days of the International Medical Congress were saddened by the announcement by Prof. Virchow, in the Section of Pathology, of the death from gouty nephritis, in Leipzig, on August 14th, of his distinguished pupil, **PROF. JULIUS COHNHEIM**. A telegram of condolence was immediately sent to his widow by the Section.

Prof. Cohnheim was born in Demmin, in 1839, and studied medicine from 1856 to 1860 in Berlin, Würtzburg, Griefswald, and Prague. He commenced to practise in Berlin, but was appointed, in 1864, assistant to Prof. Virchow in the Pathological Institute, when he entered upon a new life. In 1868 he was appointed Ordinary Professor of Pathological Anatomy in Kiel. He soon left Kiel, however, to succeed Waldeyer in Breslau. His work here was probably the most brilliant and fruitful of his whole life; so much so, that he was called to the Pathological Institute, in Leipzig, on the occurrence of the first vacancy. His name will chiefly be remembered for his contributions to the doctrine of inflammation. His discovery of the migration of the white blood-corpuscles through the walls of the capillaries in inflammation is his chief title to fame. It is too early, says the *Deutsche medicinische Wochenschrift*, to estimate the great influence of his work, and we can only know that in his death practical pathology has sustained an irreparable loss, even though in his "Vorlesungen" he has left a work, for him an enduring monument, which combines physiology and pathology to one extent never before attained. Few more important truths have been formulated in medicine than Cohnheim's, "without bloodvessels no inflammation is possible."

——On September 6th, in this city, aged seventy-seven years, **ROBERT EMPIE ROGERS**, Emeritus Professor of Chemistry in the Jefferson Medical College.

Dr. Rogers received his medical education at the University of Pennsylvania, and graduated in 1836. From 1844 to 1852 he held the Chair of Chemistry in the University of Virginia, and from 1852 to 1877 the same Chair in the University of Pennsylvania, and for the last seven years he has occupied the Chair of Chemistry in the Jefferson Medical College.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 2 TO SEPTEMBER 9, 1884.

BYRNE, CHARES C., *Major and Surgeon.*—Relieved from duty in Department of California, and to report in person to the Commanding General, Department of the Platte, for assignment to duty.—*S. O. 207, A. G. O.*, September 3, 1884.

TOWN, F. L., *Major and Surgeon.*—Relieved from duty in Department of the Columbia, and to report in person to Commanding General, Department of Texas, for assignment to duty. —*S. O. 207, C. S., A. G. O.* Granted leave of absence for twenty-five days.—*S. O. 127, Department of the Columbia*, August 25, 1884.

HAVARD, VALERY, *Captain and Assistant Surgeon.*—Relieved from duty in the Department of Texas, and to report in person to the Commanding General, Department of the East, for assignment to duty.—*S. O. 207, C. S., A. G. O.*

HALL, WM. R., *Captain and Assistant Surgeon.*— Relieved from duty in Department of Texas, and to report in person, on October 1, 1884, to the Superintendent-General of Recruiting Service, in New York City, for duty at David's Island, N. Y., relieving Assistant Surgeon M. E. Taylor from duty at that station.—*S. O. 207, C. S., A. G. O.*

HOPKINS, WM. E., *First Lieutenant and Assistant Surgeon.*— The leave of absence granted him in S. O. 67, August 7, 1884, Department of Arizona, is extended one month.—*S. O. 204, A. G. O.*, August 30, 1884.

THE MEDICAL NEWS.

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ORIGINAL LECTURES.

A COURSE OF LECTURES ON DERMATOLOGY.

Delivered at the University of Pennsylvania during the Session of 1883–1884.

BY LOUIS A. DUHRING, M.D.,
PROFESSOR OF DERMATOLOGY IN THE UNIVERSITY.

(Reported by Henry Wile, M.D.)

LECTURE VII.

SYPHILODERMA; LEPRA; FRAMBŒSIA; PELLAGRA; EPITHELIAL CANCER; SARCOMA; LYMPHANGIOMA; MYOMA; DERMATALGIA; PRURITUS.

SYPHILIS OF THE SKIN, or syphilis cutanea, includes the various manifestations upon the skin due to syphilis. The syphilodermata occur in a manifold variety of lesions, in more numerous forms even than eczema, and the statement of some authorities, that there is scarcely any form of cutaneous lesion which syphilis may not assume, is suggestive.

General symptoms are, as a rule, absent, though slight fever, malaise and languor are sometimes met with. Other symptoms usually concomitant, are enlargement of the lymphatic glands, angina, alopecia and the occurrence of mucous patches. Syphilis attacks no particular region, although the different forms of eruption show preference for certain localities. Symmetry is a characteristic of the earlier eruptions; irregularity in distribution of the later forms.

The lesions of cutaneous syphilis are noted for their multiformity, almost all of the forms common to other cutaneous diseases being liable to appear, the papule and pustule, however, being the most frequent. Polymorphism is commoner in the earlier than in the later eruptions. The configuration is also peculiar, the earlier lesions being rounded, while the later assume an annular, crescentic or serpiginous form. The color varies with the age, complexion, and stage of the disease. Early lesions are first of a pinkish or dull-reddish hue, usually passing through varied tints to a violaceous, coppery or brownish-red color. Older lesions, especially papules and tubercles, often have a deep-red, cold, non-inflammatory look.

The course of the disease is usually slow; especially is this the case with the later forms. Relapses are common. Subjective symptoms are, as a rule, absent; pain is, however, sometimes present with ulcerative lesions. Itching occasionally accompanies the small papular and pustular syphilodermata.

Syphiloderma erythematosum, or macular syphiloderm, consists of rounded or ovoidal macules, pea- to finger-nail-sized, ill-defined, faint or marked, bright or dull pinkish or violaceous, often presenting a mottled or marbled appearance. Later, the lesions grow darker, assuming a dirty-yellowish, dusky-brownish or coppery color, and then disappear. They are generally numerous, and appear first upon the trunk, abdomen and thorax, then upon the flexor surfaces of the limbs, and sometimes upon the face. The eruption has no regular distribution. It is the earliest syphiloderm, and appears in from six to ten weeks after the initial lesion, with or without malaise or other general symptoms or signs of syphilis. Its development is, as a rule, slow, requiring one to two weeks, though it may be rapid, coming out over night or after a hot bath. Its duration varies from a few weeks to several months. It must be distinguished from measles, rötheln, urticaria, and medicinal eruptions—as from quinine and copaiba; also from tinea versicolor.

Syphiloderma papulosum is an eruption in which the lesions vary in size and shape, generally being the size of a millet-seed, pea or small bean, acuminate or flat, discrete or confluent. On account of this variation in size, the division into the small and large papular syphiloderm is proper, by which cases can be more easily and precisely classified.

The *small papular syphiloderm,* also called the miliary papular syphiloderm, occurs in the form of millet-seed sized, rounded or acuminate, generally profuse lesions, which are elevated, firm or solid, disseminated or grouped, and of a bright or dull red color. The eruption is usually well marked; occurring as an acute process it may appear in a few days. It may be an early or a late manifestation, showing itself at any time between the second and twelfth month; when late, it is generally in conjunction with the large papular syphiloderm. It is mostly seen on the trunk, upper extremities and thighs, and is more common in debilitated subjects and in women than in men, and runs a chronic course, leaving pigment stains. In the matter of diagnosis, it is to be distinguished from keratosis pilaris, from papular eczema, and from psoriasis punctata.

The *large papular syphiloderm,* also called the lenticular papular syphiloderm, consists of pea to bean-sized flat, rounded or ovoidal, elevated, firm and circumscribed, pale or dull red lesions. They are usually profuse and are found more abundantly in certain localities, as on the forehead, nape of the neck, back, and flexor surfaces of the extremities. It is one of the commonest of the syphilitic eruptions, and is an early manifestation, closely following the erythema, and is often rebellious to treatment. Location influences these lesions and effects certain modifications in them. When arising on the mucous membrane of the mouth or in the axilla, groin, about the genitalia or beneath the mammæ in women, where the skin on account of opposing surfaces is kept moist by excessive perspiration, the epidermis becomes macerated and the lesions are then called *moist papules,* or *flat condylomata.* Sometimes there is an excessive proliferation of the rete cells giving rise to papillary or warty growths—occasioning the *hypertrophic* or *vegetating syphiloderm.* On the other hand, the papule may undergo the opposite change, giving rise to the *papulo-squamous syphiloderm*, in which the lesions are for the most part grouped, forming patches, and covered with layers of thin, grayish, more or less adherent scales. The regions thus attacked are usually the palms and soles, and the character of the lesions is due to the peculiar anatomy of the skin in those regions, the epidermis being very thick. The eruptions are also known as the *palmar* and *plantar syphiloderms*. They are generally symmetrical, occurring usually in the centre of the palms or soles, the lesions for the most part assuming a crescentic shape with elevated edges. When unilateral, it is generally a late manifestation. It is liable to be mistaken for eczema, psoriasis and callosity, but the history and development of the lesions, together with the shape and sharp definition, are usually sufficient to establish the diagnosis.

Syphiloderma vesiculosum is an exceedingly rare form of cutaneous syphilis, there being but few marked cases on record. The lesions generally resemble those of varicella, and usually appear about the face and genitalia, where the skin is thin.

Syphiloderma pigmentosum (syphilitic chloasma) is very rare in this country, but more common in France. It occurs chiefly upon the neck, mostly of women with delicate, thin skins, and, usually, in the second year after infection. The lesions are pea-sized, and consist of simple, pale-brownish, pigmentary deposits.

Syphiloderma pustulosum constitutes an important class, and is divided into varieties according to the size and general characters of the lesions.

The *small acuminated pustular syphiloderm* is similar in appearance to the miliary papular syphiloderm, except that the lesions are pustules, and may often be an advanced stage of the latter. The lesions consist of small, pin-head sized, rounded or pointed pustules situated on a red elevated base. They are always abundant, occurring as discrete or confluent lesions, forming large groups, circles or crescentic patches. Their favorite seats are the arms, thighs, chest, and back. Sooner or later the puriform contents dry into yellowish crusts, which dropping off are followed by pigmentary stains. This eruption may occur as early as the second or third month, and in this case usually disappears rapidly.

The *large acuminated pustular syphiloderm* may resemble acne very closely, and is sometimes also difficult to distinguish from variola. It is acute or chronic, usually the former, and accompanied by pain, languor and fever. It attacks the face, scalp and trunk, and also the upper extremities and the thighs. It is a somewhat rare manifestation, generally occurs early, and is amenable to treatment.

The *small flat pustular syphiloderm*, or impetigo-form syphiloderm, is also a rare variety, looking not unlike pustular eczema. The pustules occur in patches for the most part upon the face around the nose and mouth; also about the genitalia, the lesions soon rupturing, forming yellowish, greenish or brownish crusts.

The *large flat pustular syphiloderm*, or ecthyma-form syphiloderm, consists of finger-nail sized flat pustules upon a red base, which soon form crusts. There are two varieties, the superficial and deep-seated. In the former the flat, yellowish-brown crusts cover a superficial, freely secreting ulcer, and the lesions generally appear after the sixth month, and mostly upon the back, shoulders and extremities. The deep-seated variety, known as *rupia*, is a late manifestation, and possesses a malignant character. The crusts are thick, stratified, hard, of a greenish or blackish color, and cover a sharply defined, excavated ulcer, secreting a copious, greenish, puriform fluid.

Syphiloderma tuberculosum is usually a late manifestation, and is seen more frequently than any other eruption; occurring one, five, ten or twenty years after the initial lesion. The lesions vary in size from a small to a large pea, or are in the form of flat infiltrations, of a bright or usually dark-red, coppery, smoky hue; single, or more commonly multiple, disseminated, or grouped, or arranged in circles, segments of circles, or serpiginous tracts. The course is slow; they may, for a time, remain without undergoing any change; on the other hand, they may go on to ulceration or absorption. There are usually no subjective symptoms. When in the state of ulceration, papillary or cauliflower growths may spring up from the surface. The tubercular syphiloderm is to be diagnosticated from lupus vulgaris, cancer, and lepra, and the characteristic points to be remembered are the sharp, punched-out nature of the ulcer, its deeply infiltrated and raised border, and relatively rapid development.

Syphiloderma gummatosum, gumma or syphiloma, begins as a small, pea-sized, soft, elastic, colorless or pinkish subcutaneous tumor, growing slowly to the size of a hazel-nut or walnut. It has a tendency in time to break down and ulcerate with great destruction of tissue. Gummata rarely exist in numbers, usually but one or two occur, and most commonly in debilitated individuals, five or ten years after the initial lesion, though exceptionally as early as the first or second year of the disease. It is to be diagnosticated from simple abscess, furuncle, lymphatic gland, cancer, and fibrous and fatty tumor. It heals by absorption, or ulcerates and leaves an insignificant scar compared with the amount of ulceration.

Syphiloderma bullosum, a rare, late manifestation, consisting in the formation of blebs, which generally become puriform, and dry, and form large stratified crusts. Its presence indicates a greatly depressed state of the system.

Syphiloderma hæreditarium infantile.—The child may come into the world apparently healthy or with cutaneous manifestations, the former usually being the case. A month or six weeks after birth, lesions appear, attended with coryza and snuffles, consisting of erythema, maculo-papules, papules, blebs, or a mixture of these, generally occupying the thighs, buttocks, genitals, palms and soles, together with mucous patches. The bullous syphiloderm is, as a rule, present at birth, and consists of variously sized blebs, occurring most frequently about the hands and feet. These lesions soon rupture, and may give rise to ulceration.

The pathology of the syphilitic papule or tubercle shows it to be a neoplasm, composed of small, round, lymphoid cells, packed together, forming an infiltration resembling that of lupus vulgaris. The cell-deposit is most marked around and in the immediate neighborhood of the bloodvessels; it occupies more or less all the layers of skin below the horny layer, and is sharply circumscribed.

Respecting treatment, mercury and iodide of potassium are our most valuable remedies; and with them mainly the disease must be combated. They are administered in varying doses and in various combinations. When used together they constitute what is known as the "mixed treatment." Mercury, when used alone, may be administered by the mouth, by hypodermatic injection, or by inunction; in all cases salivation is to be avoided. The objections to the hypodermatic method, as introduced by Lewin, of Berlin, is that it is painful, and that patients generally object to its employment. Subcutaneous abscesses also often follow, and the procedure consumes too much time for the patient. The administration by the mouth is preferable to that by inunction, in that it avoids the staining of linen, takes up much less time, and, above all, in that the dose can be more accurately given. In the mixed treatment, the formula generally used is as follows:

℞.—Hydrargyri biniodidi, ...	gr. iss.
Potassii iodidi, ...	ʒiij.
Syr. sars. co., ...	f℥iv.—M.

Sig.—One teaspoonful, with water, thrice daily.

Local treatment of ulcerations may consist in the use of ointments of ammoniated mercury, one-half to one drachm to the ounce of lard; or ointment of the nitrate of mercury, one to two or four drachms to the ounce; or the oleate of mercury ointment, five to twenty per. cent. strength. A mercurial ointment is also valuable, and is almost exclusively used in the hospitals of Vienna.

Lepra, known also as leprosy and as elephantiasis græcorum, has of late received considerable attention in the journals. The disease in our country occurs not only on the coast of California among the Chinese, but also in Louisiana and in Minnesota, and in other States. It may be defined as an endemic, chronic, malignant, constitutional disease characterized specially by disease of the cutaneous, nerve and bone structures, resulting in anæsthesia, ulceration, necrosis, general atrophy, and deformity. Its invasion is usually slow and insidious, with premonitory symptoms of debility, nervous prostration, languor and the like. Persons sojourning in foreign countries for a time, as English soldiers in India, may thus contract the disease. Sooner or later blebs, macules, and pigmentary or tubercular lesions appear, together with nerve involvement and other symptoms.

Two forms of leprosy are recognized: tubercular and anæsthetic, which, however, may coexist.

Lepra tuberculosa is characterized by masses of infiltrations and tubercles preceded generally by an eruption of blebs, which are often the first manifestation. Macules then appear in the form of smooth, shining, erythematous patches, the condition being known as *lepra maculosa*. The lesions are of a yellowish or brownish color, present a brawny appearance, and usually involve the trunk and extensor surfaces of the extremities. The sensibility of the parts affected is markedly altered, there being first hyperæsthesia, then anæsthesia. The course of this variety is variable, sooner or later tubercles and prominent tumors begin to appear, giving rise to *lepra tuberosa*. The lesions are seated in the skin and subcutaneous tissue, are of a brownish or bronzed color, situated, for the most part, about the face, producing a striking appearance known as *leontiasis*, the features becoming distorted, and the skin thickened, swollen and infiltrated. It may also attack the mucous membrane of the mouth, pharynx, epiglottis, and larynx. Ulceration occurs commonly about the fingers and toes.

Lepra anæsthetica may appear with the tubercular form or alone. Blebs followed by a pigmentary deposit often precede the anæsthesia. Hyperæsthesia may also precede it, attended with pain and burning sensations. The macular patches are generally anæsthetic, so much so that a pin may sometimes be thrust into them without giving rise to pain. The skin and also the deeper structures become atrophied, while the fingers and toes become crooked, bent and mutilated, the ends often dropping off, giving rise to *lepra mutilans*.

The causes are obscure. The disease generally exists endemically, especially in certain countries, as along the shores of the Mediterranean Sea, Atlantic and Indian Oceans, also in Asia Minor, India, China, and in some of the islands of the Pacific Ocean, especially the Sandwich Islands. It is also met with in Norway, Greece, Spain and Sicily; and in Mexico, Central America, West Indies, Brazil, and sporadically in the United States. A case is reported which occurred near New York, the patient never having been outside of his native county, and in which there was no evidence of hereditary taint. As to the contagiousness of the disease authorities stand divided, and strong evidence is brought forward on both sides. It is probable that the disease is contagious in the sense that syphilis is contagious. It is hereditary, being handed down from generation to generation. It is a distinctive disease, and has no relation with syphilis. The cause seems to be intimately connected with climate, soil, food, and habits of the people.

As to its pathology, it is a cellular deposit, like that in lupus and in syphilitic new formations, being most marked around the thickened bloodvessels. It involves the nerves, and thus gives rise to pain and anæsthesia. In the diagnosis it is to be distinguished from lupus, syphilis, scrofula, vitiligo, and morphœa. The premonitory symptoms and constitutional disturbance, together with the history of the case, and the deep-seated pain or anæsthesia, are usually sufficient to mark the disease and to prevent any error in diagnosis. As to treatment, hygiene, change of climate, and regulation of diet are of the utmost importance.. Alteratives such as iodide of potassium, quinine, iodine, and cod-liver oil are useful, also gurgun oil, chaulmoogra oil, and Hoang-Nan, the last three being used by the natives, and are supposed by some to exert a good influence upon the disease. Locally baths of sulphur and inunctions with various oils, as gurgun and chaulmoogra, are highly recommended.

Frambœsia, also called yaws and pian, is an endemic disease of the West Indies, Fiji and other islands, South America, and the coast of Africa. The eruption is accompanied by constitutional febrile symptoms, and is characterized by variously sized reddish papules and tubercles, resembling a strawberry or a currant, which soon ulcerate and break down.

Pellagra, or Lombardian leprosy, is an endemic disease occurring mostly in the northern parts of Italy. The eruption, which is confined chiefly to those parts exposed to the sun, consists of a diffuse inflammatory redness ending in desquamation or the formation of vesicles and bullæ followed by crusts. The disease is accompanied by nervous prostration, melancholia, loss of mental power, and is said to be more common at certain times of the year. It is supposed by some to be caused by the ingestion of a certain ergot of rye or maize.

EPITHELIOMA, epithelial cancer, or cancroid, may manifest itself in one of three varieties—superficial, deep-seated or papillary.

The superficial, known also as the flat variety, usually makes its appearance as one or more yellowish or reddish papular elevations, often starting in a sebaceous gland or wart. Sooner or later it breaks down, oozes, discharging a watery or bloody secretion, and becomes crusted. An ulcer now forms, crusted, and with a variable amount of induration, which later becomes marked and sometimes ring-like around the sore, or later even distinctly everted.. The lesion may at first be small, the size of a pea, and later develop to the size of a silver dollar. A chronic form of this variety of cancer is known as *rodent ulcer*, occurring usually about the face, especially the upper half, more particularly the orbital region. It develops slowly, and may last from five to twenty years.

The deep-seated (known also as the infiltrating) variety generally begins as a firm, reddish tubercle in the skin, sometimes involving the subcutaneous tissue. It may start in a wart or nævus, and after a varying period of time, usually months, ulceration sets in. The lesion secretes a yellowish offensive fluid, its edges become infiltrated, and the whole process is attended with destruction of tissue, and frequently pain. The course of this variety of cancer may be slow or rapid.

The papillary variety occurs in the form of a papillary, warty, cauliflower-like growth, and often begins in a wart. The lesions, varying in size from a pea to a dollar, are raised, spongy, soft, dry or moist, crusted or covered with a viscid, sebaceous or bloody secretion. The common site of the disease is the face, especially about the mouth. It usually arises from an irritated point in the tissues, *e. g.*, excoriations from smoking a pipe, warts and nævi. It occurs more frequently in males than in females, and is most common after middle life, between the age of fifty and sixty.

Pathologically, it is an epithelial proliferation of a malignant type, the malignancy being variable. The cell of the new formation is of the squamous epithelial type, and the excessive development of the rete mucosum downwards into the corium in the form of tubular prolongations, gives rise on section to the numerous epithelial nests or pearly bodies, which are characteristic. This epithelial proliferation is accompanied by a subacute inflammatory process by which the tissue of the corium becomes the seat of a small round-cell infiltration, the whole being followed by subsequent degenerative changes. The disease begins in the normal squamous epithelium of the skin or mucous membrane. It is the least malignant variety of cancer.

Epithelioma must be differentiated from syphilitic tubercles and ulcerations, lupus, and common wart. The development of syphilitic lesions is more rapid than cancer, and the secretion in the former is more profuse. The edges of the cancerous lesion are everted, and the surrounding tissue is more or less infiltrated, while in syphilis the induration ends abruptly. In the former there is also pain, which is, as a rule, absent in the latter. To distinguish epithelioma from simple wart, the age of the patient, the mode of growth and course of the disease are necessary to support the diagnosis. From lupus vulgaris it is diagnosticated by it attacking the middle-aged or elderly, by its appearance, and that it occurs generally as a single lesion. Lupus is a disease of childhood and usually invades several parts of the body. The cancerous ulcer secretes a pale or bloody, viscid, often offensive fluid, while the secretion from the lupus ulcer is puriform and inoffensive.

The treatment of this disease consists of complete removal of the growth by means of the knife, curette, caustics or galvano-cautery, or in its destruction by electrolysis; one of these means is to be employed, according to the region, location, and size of the lesion. The superficial variety may in most cases be successfully treated by a thorough application of caustic potash, destroying not only the growth, but the bordering healthy tissue. The pain usually subsides immediately after the application; if not, it can be relieved by bathing the part with dilute acetic acid. After cauterization some mild dressing, as of olive oil, may be used, and in a week or two the blackish eschar will fall off leaving a granulating surface which, in favorable cases, soon heals over leaving a scar. Other caustics, as arsenic with powdered acacia, equal parts, made in the form of a paste, or pyrogallic acid in the form of an ointment, one or two drachms to the ounce, are also useful in some cases. The treatment with the curette, or scraping-spoon, is of great value in the superficial variety, and should precede the use of caustics. In the deep-seated variety the most satisfactory treatment is that by the knife. It is also the best resort when repeated cauterizations have failed to arrest the development of the process. The prognosis should always be guarded, as relapses are common.

SARCOMA of the skin consists of pea- or bean-sized, pigmented or non-pigmented, discrete, smooth, firm and elastic, reddish, violaceous or brownish tumors. The multiple pigmented variety generally occurs on the soles and backs of the feet, then upon the hands, the lesions being of a brownish, bluish or blackish color. It generally proves fatal, usually in a few years. The term *inflammatory fungoid neoplasm* has been used to express a rare form of sarcomatous disease, and occurs in variously sized, flat or oval, smooth or scaly, pale pinkish, reddish or violaceous, tubercular or fungoid tumors. The lesions may develop slowly or rapidly, the process running a variable course, tending to terminate fatally.

LYMPHANGIOMA of the skin is characterized by multiple, pea-sized brownish or yellowish, somewhat translucent discrete, glistening, smooth, flat tumors, found mostly on the trunk. They grow paler on pressure, and do not seem to the touch to be sharply circumscribed.

NEUROMA of the skin is characterized by various sized fibrous tubercles, containing new nerve elements, having their seat primarily in the corium, whose development is attended by violent paroxysmal pains.

Myoma of the skin consists of tumors composed of smooth muscular fibres. They are of a pale, rose or dull-red color, rounded or oval, pea- and bean-sized, slightly raised, solitary or multiple, and are not to be confounded with lymphangioma nor with molluscum fibrosum.

Dermatalgia is characterized by distinct localized neuralgic pain in the skin or with a morbidly sensitive condition of the integument. The symptoms are varying, and the pain may be general or local—usually the latter, slight or severe. The affection is often associated with rheumatism, and may be symptomatic of organic disease of the central nervous system. The treatment depends upon the variety, whether symptomatic or idiopathic. In the former, the general condition demands attention; and in the latter, local application of the galvanic current, blisters and aconite plaster may be tried.

Pruritus is a functional cutaneous disorder, characterized by itching without structural change. The sensation is variously described as a feeling of irritation, formication or tingling. The disease is a common one, and may occur at any age. Occurring in elderly individuals, it constitutes so-called *pruritus senilis.* The itching, as a rule, is paroxysmal, and is worse at night. The disease may be universal or local, usually the latter, occurring frequently about the anus, scrotum and vulva, where it may be most distressing. The causes are varied; in children, pruritus ani may be caused by worms in the bowel; in females, it may occur in connection with gestation, irregular menstruation, hysteria, organic disorders of the uterus and ovaries. It may also be associated with diseases of the kidney, albuminuria, diabetes mellitus, hepatic diseases, jaundice, also with diseases of the nervous system and genito-urinary tract. Pathologically, it is a disease of purely functional character, usually the result of reflex nervous action.

The diagnosis offers no difficulty, as the surface of the skin presents none but secondary lesions, produced by scratching or irritants. It may be confounded with pediculosis, but in the latter disease the secondary lesions are more extensive. With prurigo it has nothing in common except itching; in the former disease there is a distinct primary papular eruption. In the erythematous and papular varieties of eczema the primary lesions are usually characteristic. The disease demands both constitutional and local measures according to the cause, which should always be determined. The bowels should be regulated; if constipation exist, saline laxatives are indicated; if there be any dyspepsia, the diet must be regulated, and all indigestible articles of food prohibited. Where there is general debility, tonics, as quinine and strychnine, and belladonna may be prescribed; and where the kidneys are at fault, or the disease is secondary to jaundice, the alkalies may be used with advantage. Sulphur and its preparations, especially the hyposulphite of sodium, are sometimes useful. External treatment is always demanded. Hot water applications and alkaline baths and the tarry alkaline lotions are of service. Lotions are valuable containing carbolic acid and thymol, simple or as follows:

℞.—Acidi carbolici, . . . fʒss to fʒj.
Potassæ, ... fʒss.
Aquæ, ... f℥iv.—M.
Sig.—Use as a lotion, diluted with water.

One containing corrosive sublimate may also be given:

℞.—Hydrargyri bichloridi, . . . gr. viij
Alcoholis, ... fʒiv.
Aquæ, ... f℥iijss.—M.
Sig.—Use as a lotion, diluted.

Essence of peppermint and glycerine, equal parts; dilute hydrocyanic acid, one to four drachms to the pint of water; and hyposulphite of sodium, one drachm to the ounce, may prove useful. Of the numerous formulæ, the following may also be mentioned:

℞.—Boracis, ... ʒij.
Glycerinæ, ... f℥ss.
Spts. camphoræ, ... f℥j.
Aquæ rosæ, ... f℥vjss.—M.
Sig.—Lotion.

℞.—Fol. belladonnæ,
Fol. hyoscyami, . . . āā ʒij.
Fol. aconiti, ... ʒss.
Acidi acetici, ... f℥j.—M.
Sig.—Lotion, to be diluted with water, one drachm to the ounce.

℞.—Camphoræ,
Chloralis hydratis, . . . āā ʒj.
Ungt. aquæ rosæ, ... ℥j.
M. ft. ungt.
Sig.—Apply several times daily.

Pruritus hiemalis is a name employed to designate an irritable condition of the skin accompanied by itching and occurring during the winter months. The affection may occur in different degrees of severity and is usually most severe at night. As the spring approaches, the disease gradually disappears, but generally reappears the next autumn. It may attack any part of the body, although it is found most frequently upon the lower extremities. Where it has existed for some time, excoriations may result from scratching. The treatment is palliative, and consists of vapor baths and the use of the various emollient ointments and lotions referred to.

ORIGINAL ARTICLES.

A CASE OF SARCOMA OF THE SKIN AND CELLULAR TISSUE ABOUT THE ANKLE, WITH REMARKS.[1]

By FRANCIS J. SHEPHERD, M.D., C.M.,
PROFESSOR OF ANATOMY IN MCGILL UNIVERSITY, SURGEON TO THE MONTREAL GENERAL HOSPITAL.

The clinical interest of the following case furnishes me with a sufficient excuse for its publication.

Edward M., aged eighteen, native of Switzerland, a delicate-looking youth, came under my care at the Montreal General Hospital in April last, suffering from an ulcerated swelling about the left ankle. No history of struma or rheumatism in his family, and he himself has, with the exception of the present disease, always been healthy.

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[1] Read before the Montreal Medico-Chirurgical Society, June 27, 1884.

He gave the following history of his case:

Some six years ago, while running, he fell and injured his left ankle-joint. The doctor told him it was dislocated, but after six weeks' rest the pain disappeared, and he could walk as well as ever; the swelling about the joint due to the injury, however, never entirely disappeared. A year subsequent to the above-described accident the ankle again became painful, and the swelling and tension markedly increased. His doctor, thinking an abscess had formed, opened the swelling, but failed to get pus, blood only escaping from the incision; this incision has never entirely healed, but ever since has remained open as a sinus, discharging a thin sanious pus. Three years ago he was kicked by a horse on the affected ankle; this caused an aggravation of the pain and swelling. The ankle-joint itself since the first accident has apparently never been affected, and its movements have always been free and comparatively painless, but the swelling on the inner side has been slowly increasing in size, and at different points sinuses, which discharge a thin pus, have formed.

When I first saw him, the parts about the inner side of the left ankle-joint were of a shiny, dusky-red color, and considerably swollen. The swelling extended from a point several inches above the tip of the internal malleolus to below the tarsal joint, it also extended laterally to the sole of the foot, half way across the instep, here the skin over the swelling was quite normal. There was also fulness over the tendo Achillis and the parts behind the internal malleolus. Near the edge of the swelling were several reddish tuberculous nodules the size of large peas. There were also a number of sinuses in the upper part of the swelling, and near the centre a spot of ulceration the size of a ten-cent piece. The swelling, which was not at all well defined, on pressure gave a sense of fluctuation, or rather felt like a mass of some semifluid substance. During pressure no pus exuded from any of the sinuses. There was but little pain in the part, and patient only complained when his foot was handled a little roughly. On probing the sinuses carefully no necrosed or carious bone could be felt.

Not feeling perfectly sure of the diagnosis, but supposing from the semi-elastic sensation conveyed by pressure, and also the history of the case and the evident healthiness of the ankle-joint itself, that the disease was some form of neoplasm, I decided to place the lad under ether and carefully explore the parts affected. This I did after observing the case for a day or two. I made a free incision in the long axis of the swelling over the inner malleolus, and after cutting through very thick infiltrated skin, came upon a lot of tissue looking like granulation-tissue; this substance appeared to be in pockets, and could be squeezed out by using some force. The lining membrane of these pockets was smooth and shiny. I cut through the whole thickness of the swelling and was still superficial to the annular ligament of the ankle and the tendons which pass under it; the movements of the tendons were in no way interfered with. Feeling sure I had to do with a new growth, I sent some of the substance taken from the pockets to my friend Dr. Wilkins, for microscopical examination, and he pronounced it a very good example of round-cell sarcoma.

On consultation with my colleagues, amputation of the leg was decided on. The lad and his friends, on learning the serious nature of the disease and the danger of delay, at once consented to the amputation.

I omitted to mention that the glands in the groin were much enlarged, one, below Poupart's ligament, had increased to the size of a pigeon's egg. I looked upon this condition of the glands as purely inflammatory, knowing the rarity with which sarcomatous tumors secondarily affect the glands, and also knowing that they had been enlarged ever since the first accident. In the interval between the making of the exploratory incision and the amputation, the swelling had slowly increased in size and extent, and the incision had rapidly filled up with coarse granulation-tissue.

I amputated the leg on May 17th at some distance above the disease, dressing the stump, as I usually do in amputations, with iodoform and pads of sublimated jute. In this case I made use of decalcified bone drains, which, owing to their collapse, had to be replaced on the second day by rubber tubes. From this time the case progressed favorably, the temperature after the third day never reaching 99°, and in less than three weeks' time, with three dressings, the wound was practically healed. The enlarged glands below Poupart's ligament gradually diminished in size; and when last seen a few days ago, the lad was in good condition, felt well and strong, and the enlarged glands had almost entirely disappeared. Whether or not he will have a return of the tumor in some other part remains for time to show. Owing to the long duration of the growth and its being of the most malignant variety of the sarcomata, it is possible that infection may have been conveyed to other parts.

This case is instructive chiefly on account of the difficulties it presented for diagnosis. In the first place, the situation was an unusual one for a sarcoma; again, it resembled more some chronic form of inflammation connected with periosteal or bone disease than a sarcomatous tumor and it was only after a careful exploratory incision and a microscopical examination that its true nature was made out. I need not dwell upon the importance to the patient of a correct diagnosis in these cases, for sarcoma, and especially the round-cell variety, unless removed, is a fatal malady. The patient before coming under my care had been treated for some months on the supposition that his affection was of an inflammatory nature. What led me to suspect a new growth was the existence of apparent fluctuation with the presence of numerous sinuses, the freedom from pain on movement of the joint and the absence of any carious or necrosed bone.

The long duration of the tumor, and the fact that it can be directly traced to traumatism as its cause, add further interest to the case. Cases have lately been reported by Mr. Barwell and others in which injury was followed by an acute and rapidly growing sarcoma; this is comparatively rare, but slowly growing sarcomata not infrequently follow injuries, a fact which was pointed out by Billroth many year ago.

It is of rare occurrence that the skin of the parts about the foot is affected with sarcoma; the more common forms of sarcoma of the lower extremity being connected with bone itself or the parts in connection with bone. When the skin is the seat of a sarcomatous tumor it is of the spindle-cell variety, as a rule, round-cell sarcoma being very rarely seen in connection with the skin.

Prof. Markoe, in The Medical News of April 26, 1884, reported a series of cases of what he calls "Sarcoma of the Sheaths of Tendons about the Foot." His cases closely resemble that which I have just narrated to this Society. The skin, however, was not involved in Dr. Markoe's cases, the disease being confined to the parts immediately beneath. It seems to me that Dr. Markoe's description of his cases hardly bears out the idea put forth by him that the tumors were connected with the sheaths of the tendons.

One thing is certain, that these sarcomatous tumors about the foot are of rare occurrence, and if their true nature is not ascertained in time the life of the patient will be endangered, for though at first apparently innocent, sooner or later they develop the greatest malignity.

LAPAROTOMY, WITH REMOVAL OF A CYSTO-FIBROMA OF THE UTERUS AND A SMALL CYST OF BROAD LIGAMENT, TOGETHER WITH BOTH OVARIES AND FALLOPIAN TUBES.

By MANNING SIMONS, M.D.,
OF CHARLESTON, SOUTH CAROLINA.

Miss X., aged 29, governess, American, consulted me in September, 1883, in relation to an abdominal tumor. She had always enjoyed good health and had been accustomed to an active life. She contracted malarial fever in the fall of 1882. She came to Charleston for treatment on account of the chills and fever into which her acute attack had degenerated. At that time she was pale and anæmic, but soon recovered her ordinary health after removal from the malarious region in which she had been living. I did not see her again until September, 1883, when she returned to Charleston to seek advice on account of the tumor.

She stated that in the summer of 1882 she received a severe blow on her abdomen by falling against a table. Beyond the pain and soreness for a few days, she attached no importance to this accident. In February, 1883, she observed a lump in the right side of the abdomen, which was hard but movable. She suffered intense pain in the abdomen, accompanied by nausea and a burning sensation. This pain was increased by stooping to lift anything, and she was very much fatigued by even a short walk.

About the last of April she noticed that the "lump" had shifted its position, appearing on the left side, accompanied by a good deal of soreness and pain. About this time her left leg began to swell and there was enlargement of the glands of the groin on the same side. This œdematous condition of the limb disappeared and returned from time to time.

In June the tumor assumed a position in the middle line of the abdomen and gave no pain or inconvenience except by pressure upon the bladder. There was no menorrhagia, but with the first appearance of the tumor the menstrual period was prolonged for two or three days beyond the usual time. She had, however, since that time been very regular both as to time and quantity of the flow.

In September, when she consulted me, I found a tumor which occupied the abdomen in the position and to about the extent of a pregnant uterus at seven months, reaching up to the umbilicus, completely filling the abdomen below that point and passing below the brim of the pelvis. The tumor had a perfectly solid feeling, and but for this might very readily have been mistaken for the pregnant uterus, which it closely resembled in shape. It was perfectly smooth. On vaginal examination the cervix was found to be that of a virgin, but the tumor could not be reached. By the bimanual method, the uterus was slightly moved by movement of the tumor. By rectal examination the uterus could be detected pressed downwards, backwards, and to the right side. For obvious reasons I did not explore the uterus with the sound.

After several examinations I became satisfied that there was a tumor, almost, if not completely solid, and probably connected with the uterus. From the nature of the case this connection could not be decided upon until the sound had been employed, and under the circumstances I determined to have a consultation before it was used. Prof. R. A. Kinloch having been called in, we passed the sound into the uterus, and it entered about three and a half inches, and to the right, taking the course indicated by the rectal examination as the position occupied by the uterus. On moving the tumor the handle of the sound could scarcely be said to deviate from its position to the right or left. We decided to leave the case, undetermined as to diagnosis because of some of its features, until another meeting, which should be held after the next menstrual period. During the next menstrual period I made an examination with the speculum, and saw the discharge issuing from the os, and in this way eliminated to some extent one of the elements of difficulty in the way of confirming a diagnosis. In February we made another examination, and on this occasion again passed the sound, with the same result as on the previous occasion.

In the meantime the tumor had increased much in size and its pressure-effects had become very painful and distressing to the patient, rendering it almost impossible for her to walk but a short distance, by reason of the weight and interference with respiration. She lost weight rapidly, and her face presented a distressed, pinched, and anxious expression. Our diagnosis was fibro-cystic tumor, connected closely with the uterus. It was determined to give her the benefit of an operation, which should be exploratory in its nature, but if there should be any reasonable prospect of removing the tumor with or without its connections, with a chance of saving life, the operation was to be completed. My patient was removed to the St. Francis Xavier Infirmary, a new hospital recently erected in the western portion of the city, in full view of the Ashley River, and to a great degree isolated from other buildings. She was admitted on April 1st, one week before the day fixed upon for the operation, and carefully prepared for the ordeal by daily warm baths and frictions of the skin, regulation of the bowels, and a selected diet.

The operation was performed on April 8th, twenty days after the preceding menstrual period, with the assistance of Drs. R. A. Kinloch, Wm. H. Huger, W. C. Ravenel, P. Gourdin DeSaussure, and John L. Dawson, Jr. There were no spectators, and but five assistants, who carefully disinfected their hands.

Twenty minutes before the administration of the anæsthetic a hypodermatic injection of atropiæ sulph. gr. $\frac{1}{150}$, and morphiæ sulph. gr. $\frac{1}{4}$, was administered. The anæsthesia was first accomplished with chloroform and continued with ether.

Operation. An incision was made in the median line between the umbilicus and pubis, four inches in length, and the parts successively divided until the transversalis fascia was cut through; there was then exposed to view the subperitoneal tissue loaded with fat, which was removed piecemeal with scissors.

At this stage attention was devoted to the arresting of hemorrhage, which was very free. The peritoneum was then opened, no ascitic fluid escaped, and the tumor brought into view. It was of a white, pearly color, and solid to the touch except at one point, which gave an indistinct but delusive sensation of fluctuation. The sound was swept around and no parietal adhesions discovered. The patient was turned upon her right side and a trocar of small size was introduced into the tumor, giving in its passage the feeling of perfect solidity and density. Nothing save a little blood escaped from the canula. Coursing over the surface of the tumor were large vessels with very friable walls, which became ruptured in handling the tumor, and from these there was an active hemorrhage which could not be restrained either by forceps or ligature. The abdominal incision was rapidly extended with scissors, downwards to the pubis and upwards to the left of the umbilicus, to about two inches above the latter. The tumor was then lifted with difficulty out of the abdomen, the edges of the abdominal wound being as soon as possible covered with soft cloths wrung out in a warm solution of carbolic acid to prevent the passage of blood into the cavity, as well as to obviate the loss of temperature. It was found that the tumor was connected with the uterus at its upper border and to the left side by a pedicle about one and a half inches in length and two and a half inches in thickness. There were two considerable adhesions of the omentum to the tumor, and another adhesion apparently of the ascending colon. These adherent structures were tied, peeled off from the tumor, and dropped into the abdominal cavity. The pedicle was transfixed near the uterus by a long steel pin, and below it was placed a solid rubber cord which was tied in tension, effectually constricting the parts. The tumor was then ablated, no hemorrhage occurring from the stump. The pedicle was again transfixed below the rubber cord, with a needle armed with a double silk ligature, and tied in two portions. The ligature was next passed around the whole stump, including both halves, before it was finally secured.

The elastic cord was now removed and a wedge-shaped piece taken from the centre of the stump, leaving two lateral flaps. The effort was at the same time made to preserve as much of the peritoneal covering as possible, by which to invest the flaps. These flaps were then brought together with an uninterrupted suture of fine silk. This being accomplished, it was discovered that there was some subperitoneal hemorrhage coming from the track of the ligature surrounding the pedicle. It therefore became necessary to inclose the stump with another ligature between the uterus and the first ligature. This was a difficult matter, as there was now no space left on the pedicle, and this ligature had to be put upon the uterus itself.

To accomplish this a single silk thread was used, and to keep it in place (for the tendency was for it to slip into the track of the main ligature), as it encroached considerably upon the uterus, at the suggestion of Dr. Kinloch, I took a series of superficial stitches in the uterine tissue about three-fourths of an inch apart, until the stump was completely surrounded like the mouth of a purse. When this ligature was drawn close the hemorrhage ceased. This fine ligature was cut short, as was the main one, and the uterus dropped into the cavity.

The ovaries were then examined; both were found with beginning cystic disease, and in size equal to a large fowl's egg. These, together with the Fallopian tubes, were removed, their connections having been tied with fine silk ligatures. In connection with the broad ligament of the right side was found a small cyst which was likewise included in a ligature and removed.

The abdominal cavity was carefully sponged, and this process was continued until the sponges were returned unstained. The abdominal wound was closed with nine silver sutures passed one inch from the edge of the incision, the peritoneum being carefully included to the same extent. Before these sutures were passed, a flat soft sponge was interposed between the abdominal wound and the intestines, to intercept any blood which should escape from the punctures. At the lower angle of the wound a Thomas double-current rubber drainage-tube was introduced to the bottom of Douglas's cul-de-sac. Through the rubber tubing attached to the arms of the drainage-tube, with a Davidson's syringe the abdominal cavity was freely washed out with a warm one to forty solution of carbolic acid until the returning fluid was clear. A portion of this fluid was allowed to remain in the cavity. Seven superficial sutures of silk were introduced in the spaces between the deep sutures. At this stage an annoying hemorrhage occurred from a superficial vessel in the abdominal incision which gave some trouble. This being controlled, the incision was dusted with iodoform, and especially around the tube at the inferior angle; over this was placed borated cotton, and the whole dressing kept in place with a flannel bandage. The operation extended over an hour, but much of this time was consumed in arresting hemorrhage before the abdominal cavity was opened.

The tumor weighed seven pounds and measured in its greatest circumference 25½ inches; in its transverse circumference 20½ inches, and in its vertical circumference 22½ inches. It was of dense fibrous structure, giving the sensation of cartilage under the knife. It contained two small cysts; one of the size of a fowl's egg near the centre, the other at the periphery was the size of a goose's egg.

The patient reacted promptly after the operation; the temperature being 99° at 3 P. M., one hour and a half after she was put to bed. Nausea and vomiting were urgent for forty-eight hours. During the first twenty-four hours absolutely no nourishment was given, and nothing save occasionally a small piece of ice to allay thirst. On the evening of the second day milk and lime-water were administered every hour in teaspoonful doses. Menstruation appeared on the second day. On the fourth day there was hemorrhage from the superficial wound. The dressings were changed and the wound dusted with iodoform. The drainage-tube was also removed, as up to this time there had been no discharge through it. A tent was placed in the track occupied by the tube.

On the sixth day the patient took beef-tea with relish; up to this time she had only been allowed milk and lime-water. The wound was healed except at the lower angle. Removed the tent, which had some bloody matter upon it, but there was no unpleasant odor. No discharge followed the tent. On the seventh day as there was some tendency to sweating, the abdominal cavity was washed out with a solution of common salt carbolized; ʒj of salt, ʒijss of carbolic acid to the quart of water. With the first flow of the solution some blood-tinged matter returned immediately from the track of the drainage-tube.

It was evident that this track was separated from the general cavity of the peritoneum by plastic deposit. On the eighth day the nine silver sutures were removed and adhesive strips were applied to secure the line of incision from strain. The original track of the drainage-tube was washed out each day from this time until the fifteenth day, when it was omitted because the part had become almost entirely filled up with granulations; the discharge amounted to very little and was pure and clear. On the evening of the eighth day ordered calomel gr. jss and white sugar gr. xx at bedtime. On the ninth day administered ʒij castor oil, which operated four times freely. On the twentieth day the superficial sutures were removed.

The highest point reached by the temperature during the progress of the case was 100.75° and this only on one occasion on the second day at 6.40 P. M., but fell again at 10.20 P. M. to 99.25°.

It was necessary only to pass the catheter twice, viz., on the first and ninth days after operation.

There was never at any time evidence of peritonitis, and the only suspicion of septic infection was in the relaxed and sweaty condition of the skin observed for the first time on the seventh day. It was this symptom which was taken as an indication for washing out the track of the drainage-tube.

The patient was in a condition to get up at the end of the third week, but as I was to be absent from the city for a week she was detained in bed until the end of the fourth week, for fear that there might be some imprudence unless she was carefully watched.

Remarks. I am induced to report this case because of the interest which is at the present time manifested in operations for the removal of tumors connected with the uterus; whether these operations have for their object the ablation of the tumor alone, or this together with the uterus itself, or the uterine appendages, with the hope of bringing about a reduction in the size of the tumor.

The case is interesting for the reason that during the course of the after-treatment the patient never at any time presented symptoms of an alarming nature, either from shock, hemorrhage, peritonitis, or septic infection. It is also a success scored for the intraperitoneal method of treating the stump, although the uterus itself was involved in the ligature. One of the most frequent causes of failure in operations of this nature is hemorrhage from the stump after it has been dropped into the abdominal cavity. This hemorrhage often exists to a small extent from the wound made by the needle in passing the ligature through the stump unobserved before it is dropped and becomes free in the abdominal cavity, partly from the more active circulation after reaction, and partly from the shrinking of the stump itself.

In this connection I would call attention to the method of applying the ligature to the stump employed in this case. After ligating the stump in halves, the ligature was made to encircle the whole stump before it was secured. Even with this precaution hemorrhage continued from the track of the needle employed in passing the ligature. The important point in restraining this hemorrhage was the manner in which the final ligature was applied. The difficulty encountered was to retain this ligature in place and overcome its tendency to slip from the uterus. This could not have been accomplished except by the taking of superficial stitches in the tissue of the uterus.

The final success of the case was due to absolute cleanliness and drainage.

THE ANTRUM OF HIGHMORE, AND SOME OF ITS DISEASES.

By D. H. GOODWILLIE, M.D.,
OF NEW YORK.

The antrum is a large cavity in the body of the maxillary bone. Above is the floor of the orbit, internally the nasal wall, below the alveolar process. It varies in size and capacity (one to eight ounces), and is larger in the male than the female; it diminishes in old age and after the loss of the teeth. The two antra may be unsymmetrical in size and shape, and sometimes extend into the malar bone, forming a second cavity. It is lined by mucous membrane, and communicates with the nasal cavity in the middle meatus by an opening that varies in size.

If the sinus is large, the second bicuspid and first and second molars may be in close relation to the floor. The roots of the first molar often pierce through the bony floor, and are only covered by the mucous lining of the antrum. The posterior and middle dental nerve courses in the posterior and anterior walls. Disease seldom originates in this sinus, but it is often invaded by disease from without.

Suppuration in the antrum, in the great majority of cases, is the result of suppurative pulpitis, most commonly from the first molar. Caries of the tooth sets up suppurative pulpitis, and the discharge passes through the apices of the roots into the antrum. If the trouble is from the other adjacent teeth, the pulpitis will result in a maxillary abscess, which may then extend into the antrum.

In struma, syphilis, and mercurial poisoning the inferior and middle turbinated bones become necrosed with the antral wall. Trouble in this sinus is sometimes the result of traumatic causes.

Septicæmia is one of the dangers in pent-up pus in the antrum—indeed, is more or less present in nearly all cases, particularly so if there is also a maxillary abscess.

Symptoms of antral abscess are at first a dull aching pain, and as the disease advances infra- and supra-orbital neuralgia, throbbing pain, with redness, swelling, and fluctuation, with rigors and fever. As the pus accumulates, the nasal wall—the weaker one, is quite apt to be forced toward the septum, often producing complete stenosis of the nostril, with, possibly, a discharge of pus. If there is much continued pressure, the stronger wall shows signs of distention, with swelling of the cheek, or the palate is forced downwards. Occasionally the orbital wall will be forced upwards, producing exophthalmus.

Treatment consists in the evacuation of the pus by the extraction of the decayed teeth, and through the socket of the first molar as the most direct course to the floor of the antrum by means of a trephine. This is most efficiently done by the surgical engine. The opening should be one-fourth of an inch in diameter to give free vent to the discharge. This should not be allowed to close until all discharge ceases.

If the case is of long standing,an opening should also be made from the inferior meatus through the nasal wall into the antrum. The sinus is to be kept clean by thymolized water. or bichloride of mercury (1 in 1000) and water. Boric acid or iodoform and camphor powder is to be blown in by means of an insufflator.

If the antrum trouble is the result of constitutional disease, appropriate remedies are to be used in connection with the local treatment.

Catarrh of the antrum is a disease in its earlier stage too little recognized. It coexists with catarrh of the nasal cavity, and is often the primary cause. The opening from the nasal cavity becomes enlarged, and the fetid catarrhal secretion passes into the nasal cavity. This is one source of the trouble called ozæna. There may also be necrosis of the inferior turbinated bone.

The treatment in such cases is to make a free opening from the inferior meatus into the antrum, all necrosis to be removed if any exists. It is to be kept thoroughly cleansed and the powders blown in.

Hydrops antri is a disease characterized by a gradual painless distention of the walls of the antrum, probably by the changes constantly going on in the pent-up secretion. This fluid is clear or yellowish, frequently containing flakes of cholesterine, and is supposed to be the contents of cystic growths within the antrum.

Treatment consists in trephining, cleansing, and use of the powders.

The antrum is often invaded by nasal tumors, which occasionally pass through the antrum and emerge externally into the cheek.

Malignant disease occasionally has its seat here.

Foreign bodies, such as teeth, are found in the antrum and sometimes are in malposition, or by some accident are forced into the sinus.

Lacerations and fractures of the alveolus, by extracting the molars, are frequent causes of antrum trouble.

Case I. *Suppurative disease of the antrum of Highmore, with dislocation of the cartilaginous nasal septum of twelve years' standing.*—Dr. D. M., of Ontario, Canada, consulted me in November, 1879, and gave the following history: In 1865, had pain in his second left superior molar tooth, and an unsuccessful attempt was made to have it extracted. This probably resulted in rupturing the vessels of the dental pulp, as the doctor says the tooth was started from its socket and then pushed back again. Some time after, from intense pain and swelling of the face, a second attempt was made to extract the tooth. This was not entirely successful, as a root was left in the jaw. From this time the discharge began, and continued until I saw him, more than twelve years after.

He presented the following condition: first and second molars gone from the left superior jaw. Above the alveolus at the position of the second molar, was a fistulous opening, made by a trephine some years ago into the antrum. In this opening he wore a hard-rubber drain-tube, but as it was small in calibre and too high up in order to drain the discharge from the antrum, it was of very little use. It also excited granulations in the cavity. A gelatinous polypus was found in the left nostril, growing from the middle turbinated bone.

This hung by a pedicle over an opening made by necrosis of the inferior turbinated bone and the nasal walls of the antrum.

From the blowing of the left nostril by closing the right with the thumb, to free it from the constant discharge, the lower end of the cartilaginous nasal septum was dislocated and turned into the left nostril, preventing respiration, except when forced. In the pharynx, a muco-purulent track was to be seen on the left of the vertebral ridge, caused by the discharge passing down from the posterior nares. This produced a good deal of expectoration. This trouble continuing for so long a time had very much affected his general health, and prevented him from attending to all his professional duties. On the doctor's first visit in November, 1879, I only removed the polypus, as it was necessary for him to return immediately home to meet some professional engagements.

In April, 1880, he returned and under an anæsthetic I made first an operation on the dislocated nasal septum. An incision being made through the soft parts, I amputated the protruding cartilage of the septum. The soft parts were brought together and held by small silk sutures; this healed by first intention, and in a weeks' time it would be difficult to tell where the incision had been made. The next part of the operation was the trephining through the alveolar process at the position of the first molar, directly into the bottom of the antrum, by means of a large bone-cutting drill driven by the surgical engine. This opening gave exit to a fetid discharge pent up in the cavity of the antrum. The last part of this operation was the removal, by means of the revolving bone-cutters, of the necrosed turbinated bone and the naso-antral wall, through the anterior nares. This made an opening from the nose into the antrum, extending from the floor of the inferior meatus to the middle turbinated bone and antero-posteriorly about an inch. There was considerable hemorrhage, which was easily controlled.

Through these openings the antrum was freely washed out with thymolized water, and medication applied, which consisted in blowing into the antrum the iodoform and camphor powder by means of the insufflator. There were present at this operation Drs. Farnham, Carey, Warden, and Bucklin of New York; Marvin, of Brooklyn; and Braden, of Michigan. Twelve months after the operation the muco-purulent discharge ceased, and he is now in robust health. The respiration through the occluded nostril is quite free. The opening from the mouth into the antrum has now closed up. A permanent opening will remain in the naso-antral wall where the necrosis was removed.

Case II. *Suppurative disease with exophthalmus.*—In July, 1881, Dr. Carey referred to me Mrs. A. C., who had extensive swelling of the left cheek, with exophthalmus. Nostril on that side closed. She suffered great pain; teeth on that side much decayed. Treatment consisted in removing the decayed teeth and trephining through the alveolus into the antrum. The antrum was also trephined through the naso-antral wall in the line of the inferior meatus. The pent-up fetid pus flowed freely from the antrum through these openings and gave her great relief from pain. The sinus was kept thoroughly cleansed and the swelling and exophthalmus gradually passed away.

Case III. *Tooth found in the antrum.*—I was consulted in 1869 by Mrs. S. A., of Philadelphia, Pa., who gave the following history: Having pain on the right side of her mouth, she had some decayad teeth extracted. Severe pain soon returned and had continued some months before I saw her. There was great swelling of the jaw and face; palate forced downwards; distention of the naso-antral wall, with some discharge from the nostril and alveolar process. Administered an anæsthetic and trephined through the track of the fistulous opening in the alveolar process, which was necrosed into the antrum. On entering the antrum, the trephine struck against some hard foreign body. After the opening had been enlarged, a tooth was found in the antrum and removed with all the necrosed bone. This operation removed the entire floor of the antrum. As all the periosteum was preserved, the case recovered rapidly and left very little deformity.

The probable explanation of the presence of this tooth in the antrum is as follows, viz.: A suppurative pulpitis was followed by a maxillary abscess around the roots of the molar tooth; the pus finding its way into the antrum produced inflammation and suppuration, resulting in alveolar necrosis, and when the teeth were extracted this one was forced into the antrum in attempting to apply the forceps.

Case IV. *A tooth developed in the antrum.*—Isaac C., aged 18 years, was brought to me by Dr. Carr. The young man had been suffering pain in his right superior maxilla which commenced six years before and had steadily increased up to the time I saw him. It was thought at first to be an alveolar abscess and the doctor lanced it, but with only temporary relief to his pain. There was found on examination the following condition: There was a swelling commencing at the canine fossa and extending back to the hamular process. Stenosis of the right nostril with nasopharyngeal catarrh. All the teeth on that side of the mouth were developed and in normal position with the exception of the canine. From the absence of the tooth and the nature of the discharge that occasionally came away, together with the other symptoms, I was of the opinion that it was a dentigerous cyst.

Treatment consisted in placing the patient under an anæsthetic, and pulling well back the cheek by means of a retractor, and in making an incision from the canine fossa backwards one and one-half inches, and three-quarters of an inch above the border of the gum. The periosteum was now denuded from the bone, and by means of the revolving bone knives the cyst was opened into, and quite a quantity of an amber-colored liquid escaped. On a careful examination of the interior of the cyst, the canine tooth was found fully developed and lying in the bone of the floor of the antrum, the root presenting anteriorly. The soft parts that were denuded were united by suture, the anterior corner being left for the purpose of cleansing the antrum and cyst. A reproduction of bone took place from denuded periosteum, and six months after nothing remained to show that any operation had been performed. The stenosis of the nostril was relieved by extirpating the inferior turbinated bone by means of the revolving scissors and surgical engine, in order to make a free passage.

Case V. *Abscess of the antrum of ten years' standing.*—W. N., aged 51 years, born in England, had tooth disease commencing ten years before, from which time he has had neuralgia with nasal catarrh. After treatment by his family physician he was referred to a specialist, by whom he was treated for nasopharyngeal catarrh, but he steadily grew worse and gave up treatment. Suffering from pain and the discharge, he was unable to sleep at night in bed, but reclined in a chair.

When I first saw him he was suffering intense infra- and supra-orbital neuralgia, with rigors and fever. Slight redness and swelling of the right cheek. Muco-purulent discharge from the right nostril. All the molars and the second bicuspid were gone. The bicuspid had been removed not many days before.

Treatment consisted in trephining through the alveolus into the antrum and in enlarging the opening in the naso-antral wall into the inferior meatus. The discharge was very fetid. The antrum was kept thoroughly washed out and boracic acid blown into the antrum and into the nostril. The passages were kept open and the treatment carried on for several months, and he entirely recovered.

MEDICAL PROGRESS.

Subcutaneous Injections for Cholera.—Samuel holds that cholera is a process which causes death by an incoercible transudation. The local treatment (antiparasitic or antidiarrhœal) cannot, on account of the rapid removal of the remedies or their extreme dissolution, give any good result. General treatment in this way is also doubtful. It is only necessary to maintain the circulation for twenty-four or thirty-six hours, and he recommends multiple injections under the skin, in different regions of the body, of solutions of six parts (by weight) of common salt and one of bicarbonate of soda to one thousand of distilled water. These injections should be kept up during the whole period of asphyxia.

At the meeting of the Verein für innere Medicin of Berlin, on July 14, Dr. Kronecker said that he considered the intraorganic injection of common salt as the really effective method of combating cholera. The quantity to be used is not a matter of indifference, and experiments on animals do not give the needed data; one animal will support well a quantity which would be fatal to another. For man, from the results of hypodermatic and nasal injections, it seems that a solution of seventy-three parts of salt to one hundred of water (by weight) is the quantity best supported.

Should the injections be intra-arterial, intravenous, or simply subcutaneous? Kronecker has always injected the solution into the veins; this is the surest method. But care should be taken that no more than 20 c.cm. (ʒv) enter the circulation per second; for this purpose a graduated flask should be used.

The Society appointed a commission of seven members to investigate the subject.—*Berliner klin. Wochenschr.*, July 28, 1884, and *Wiener med. Presse*, July 27, 1884.

The Consequences of Extirpation of the Thyroid Gland.—J. Wagner has just completed a series of experiments, on this subject, made on dogs and cats. After extirpating the thyroid gland, he studied the nervous disturbances which followed. The most of the cats operated upon were only a few weeks old. After complete extirpation, trembling of the extremities and fibrillary muscular spasms occurred, which, though scarcely perceptible at the beginning, became more pronounced later, and interfered with the locomotion of the animal. Sometimes the muscular tremors amounted to clonic cramps, and they, in turn, were succeeded by tetanic convulsions. The locomotion was stiff and sprawling. The respiration was dyspnœic during the cramps. The sensibility was very much diminished, and perhaps there was also some paræsthesia. In one case, there was clearly a marked increase in the mechanical and electrical nervous irritability. In every case, death occurred between the second and fourth day, and there was a tendency in the animals to run backwards. Nothing noteworthy was found at the post-mortem examinations.—*Centralbl. f. d. med. Wissensch.*, July 26, 1884.

The Microbe of Syphilis.—At the meeting of the Société de Biologie, on July 12th, MM. Marcus and Tornéry communicated the results of their researches on the microbe of syphilis. They conclude that:

1. An easily colored coccus, occurring in colonies, is found in syphilitic products, and in cultures from them.
2. These cocci are easily cultivated in an infusion of peptonized beef, to which gelatine and an alkali have been added.
3. They are found in indurated chancres, and in the lymphatic ganglia.—*Gaz. Hebdom.*, July 25, 1884.

Extirpation of the Carcinomatous Uterus.—A. N. Solowjeff reports ten cases in which he removed the carcinomatous uterus, by the vaginal method, in 1881–83. The results were as follows: Seven recovered, and are living now, and three are dead. Of the recoveries two (one twenty and one eighteen months after the operation) have no return of the carcinoma; in one case recovery seems to be complete; in two no anomalous conditions are found near the cicatrix; in one there are nodules in the cicatrix; one lost sight of. Of the three fatal cases the disease returned in the broad ligaments in one; a portion of the growth was left in the broad ligament in another; and the third died of sepiticæmia.—*Centralbl. für Chirurgie*, August 2, 1884.

The Infectiousness of the Air in Rooms Occupied by Phthisical Persons.—L. von Wehde has recently made experiments on this subject by collecting the dust from the air in rooms occupied by phthisical persons. After one, one and a half, and two days the glycerine appeared clouded, to the naked eye. Water, into which dust, collected on a dry plate, was placed, also became clouded. Fifteen animals were then inoculated with the soiled fluids. The inoculations succeeded in eleven cases; the other four "died soon after the inoculation of other causes (?)"—*Centralbl. f. d. med. Wissensch.*, August 2, 1884.

Teratoma of the Pituitary Gland.—H. Beck reports, in the *Prager Ztschr. für Heilkunde*, 1883, Bd. iv. Hft. 5 *u.* 6, his examination of a tumor of the pituitary gland, which Chiari found in a woman seventy-four years of age. It had caused trouble of vision, by producing a flattening of the optic chiasm. The tumor was the size of a walnut, and contained cysts with gelatinous contents, teeth, and bones; the cavity was lined with ciliated epithelium.—*Centralbl. f. d. med Wissensch.*, August 2, 1884.

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INTRAVENOUS INJECTIONS.

IT must be reluctantly admitted that the operation of transfusion of blood, philosophical as it seems, and powerfully as it appeals to the earnest desire of every true physician, that he may do some great thing toward saving a valued human life as occasion requires, has not fulfilled its early promise, and has consequently fallen out of favor with surgeons here as elsewhere. Among the causes of this decadence in popularity, may be mentioned the great danger that, even in so-called defibrinated blood, minute masses of fibrin, or aggregations of red corpuscles, may act as emboli, and quickly cause grave or fatal disorders in the brain, lungs, and liver. Other objections are found in the difficulty of procuring healthy blood in sufficient quantity, at the moment when it is most needed, and to a less degree the chances of conveying disease into the body of the recipient. Within the past few months, however, so many reports of success abroad, by the intravenous injection of a solution of common salt and carbonate of sodium, representing the salines of the blood-plasma, have reached us, that it seems almost a duty for us to undertake new experiments in this country, in order to test the practical value of so plausible a method for obviating the tendency to death in cases of profuse hemorrhage.

In a remarkable instance reported among others by PROF. MIKULICZ, of Cracow, a young man, who had lost so much blood from a wound in the brachial artery that his pulse was barely perceptible and was beating at the rate of about one hundred and thirty per minute, was operated on by the gradual injection of twenty ounces (600 c. c.) of the compound salt solution, with immediate and obvious benefit and ultimate cure. Dr. Fux, of Laibach, records the case of another youth, who, in consequence of repeated hemorrhages from a neglected wound in the hand, had become profoundly anæmic, but was satisfactorily prepared for successful operation upon the injured member by an intravenous injection of eight and a half ounces (250 c. c.) of salt solution. Dr. Fux, as a result of his experience, fully endorses the assertion of Szuman that the injection of salt solution in acute general anæmia is an enormous advance in therapeutics, and deserves to be held in very high esteem as a surgical resource in threatened death from hemorrhage.

The solution employed by Mikulicz was composed of one part of carbonate of sodium, six parts of common salt, and one thousand parts of distilled or twice-boiled water, warmed in a bottle of the temperature of 104° F. (40° Cent.), and injected into the median basilic vein, by the mere weight of a column of the fluid twenty inches in height, contained in a funnel and rubber tube attached to the canula, which had been inserted into the vein. Great care was taken to insure complete antisepsis by transmitting a five per cent. carbolic acid solution, to wash out the apparatus previously, and the amount of salt solution slowly injected varied from seventeen to fifty ounces (500 to 1500 c. c.).

It seems to be proved by experiments upon animals, and also by clinical facts already in our possession, that the mortality in most cases of excessive loss of blood does not occur from scarcity of red corpuscles chiefly, but in consequence of the total bulk of the vital fluid being so far diminished that the vascular system, and especially the cerebral and coronary arteries, are not kept full enough to enable the organs concerned duly to perform their functions. That it is not the mere diminution of the solid constituents of the blood which is the essentially fatal condition, is shown by the facts that in profound anæmia the number of red corpuscles may fall to 500,000 per cubic millimetre, or one-tenth their normal amount, whilst the albumen and fibrin may also be very much reduced, in hypalbuminosis and hypinosis without destroying life.

Hence, if the favorable results already reported are confirmed by other observations under varying conditions, we believe that the operation of "Kochsalzinfusion" will speedily assume an important place, as a remedial measure against death from excessive loss of blood. Perhaps, indeed, it may ultimately take rank among the four or five surgical procedures, such as that of tracheotomy, and the operation for relieving strangulated hernia, which every physician should keep himself both *mentally* and *instrumentally prepared*, to perform at a moment's notice. It is applicable not only in cases of external wounds, but also in internal hemorrhage from gastric or intestinal ulceration, and in the uterine hemorrhage of abortion, or of placenta prævia, or from inertia after parturition is accomplished.

VAGINAL EXTIRPATION OF THE UTERUS.

THE subject of kolpohysterectomy, or removal of the uterus by the vagina, is very fully discussed by DEMONS, of Bordeaux, in the *Rèvue de Chirurgie* of August. He holds that while cancer of the uterus offers by far the most frequent indication for the operation, yet it may be given by myomata situated at the fundus of the uterus; when a myoma is of medium size and submucous, situated as mentioned, the patient may die from hemorrhage, and therefore, other means failing to stop the blood-flow, it is better to remove the uterus by the vaginal method. An indication for partial removal of the uterus is given by an irreducible inversion of the organ.

In determining the propriety of the operation in a case of cancer of the uterus, a most careful examination must be made, and for this it is necessary in many cases thoroughly to anæsthetize the patient,—at least the abdominal muscles must be completely relaxed. The examination is made by abdominal palpation, by vaginal and rectal touch. In a case suitable for the operation there should be no enlargement of the lumbar glands, no tumefaction of the broad ligaments, the vaginal cul-de-sacs should be free from swelling, of normal elasticity, and the uterus should be quite movable. This mobility is best tested by catching the cervix with a tenaculum, and drawing the organ toward the vulva, at the same time, as advised by Schröder, that rectal and vaginal touch are made, so that the broad ligaments can thus be included between the fingers, and their freedom from disease be ascertained.

The operation is to be rejected in case the disease involves simply the intravaginal cervix, for then removal of this only is advisable Even if the disease has extended to the internal os, supravaginal amputation of the cervix may be done, but total extirpation is necessary if the mucous membrane of the body is involved as well as that of the neck.

In the operation the patient is completely anæsthetized, and by means of continuous traction with Museux's forceps fastened to the cervix, the latter is drawn to the vulval orifice; then a circular incision is made around the cervix, when the finger is used to detach the uterus, keeping it close to this organ; the detachment is made but slightly behind and at the sides, but carried in front to the anterior peritoneal cul-de-sac; occasionally a probe-pointed bistoury may be necessary to divide very resisting portions of connective tissue. The peritoneum is opened, if possible, with the finger, if too resisting with the bistoury, and then two fingers are passed over the fundus of the uterus so as to draw it into the vagina; in some cases this eversion of the uterus cannot be effected by the fingers, and then a strong hook must be used for the purpose.

The next, and the most difficult step of the operation, is ligating the broad ligaments. For this a curved needle—Cooper's is advised—is required, and Demons uses catgut ligatures, No. 1 for the upper, and No. 2 or 3 for the two lower. After introducing the three ligatures on one side, and tying them, the ligament is divided either with a probe-pointed bistoury, or blunt-pointed scissors; next the ligatures are applied to the broad ligament of the other side, and it is then similarly divided; finally, the bistoury is used to cut the peritoneum posteriorly, and the uterus falls out. Demons states that it is unnecessary to remove the ovaries, as the patients do not have any acute pain at menstrual periods, and there is no intra-abdominal hemorrhage.

The statistics of the operation given by Sãnger, in 1883, are quoted, showing that in 143 extirpations of the uterus—133 for cancer, 6 for prolapse, and 4 for myomata—72 per cent. recovered, while 28 per cent. died. While immediate recovery is then the rule even in cases of kolpohysterectomy for cancer, yet in the majority the disease returns in four or five months, and the patient dies in a year or fourteen months after the operation. Demons, while recognizing the difficulties of the operation, states that he has less fear in the removal of a mobile uterus, than in that of a nasopharyngeal polypus with multiple prolongations, or of a suffocating goitre.

LITHOLAPAXY.

WE cannot at this moment recall a single surgical operation which has so rapidly become an accepted procedure as lithotrity at one sitting. From the very date that PROFESSOR BIGELOW published in *The American Journal of the Medical Sciences*, six years ago, an account of his new method of dealing with urinary calculi, surgeons of all parts of the world have demonstrated the merit of his great achievement, and it is interesting to note that, in the hands of those having the greatest experience in the treatment of calculous subjects, litholapaxy has as effectually displaced ordinary crushing as the latter procedure has displaced lithotomy.

That the latter statement is strictly true is shown by a comparison of the three procedures in adults, as practised by the same surgeon. From two lectures delivered at the Royal College of Surgeons, and published in the *British Medical Journal* for July 12 and 19 of this year, we find that SIR HENRY THOMPSON has had 782 cases of operation for stone in adult males. Among his first 200 cases, 48, or 1 in nearly every 4, were subjected to lithotomy. In his next 371 cases, 19, or 1 in every 19½, were cut; while in his last 211 operations, 15, or 1 in every 14, were lithotomies. Von Dittel, as reported in the *Wiener med. Wochenschrift*, Nos. 3 to 11, 1884, lithotomized 46 of his first 100 patients, 32 of his second 100, and only 13 of his third 108, the ratio of those cut having been reduced from 1 in 2.17 to 1 in 7.69. In the crushing operations litholapaxy rapidly displaced ordinary lithotrity, and lithotomy was reserved, as a rule, for encysted calculi and stones of unusually large size.

That Bigelow's operation is safer than other operations for urinary calculi in adult males is proved by some other facts set forth in the lectures of Sir Henry Thompson. Thus, of 110 lithotomies, 39 were fatal, the mortality being 35.5 per cent., which is simply enormous. Of 478 ordinary lithotrities, 33 died, the mortality being 6.9 per cent.; while of 194 litholapaxies, 10, or 5.15 per cent., were fatal. These results clearly show that litholapaxy must supersede not only the old operation of crushing, but also cutting operations except in cases in which the stone is of exceptional size or hardness.

The results of rapid lithotrity, as performed by different operators, indicate a mortality of about 5.4 per cent. This death-rate does not appear to have been materially lessened by the experience of those who have had the most frequent opportunities to do the operation. Thus, Freyer's 76 cases show 3 deaths, or a mortality of 4 per cent. Von Dittel's 80 cases afford 5 deaths, or a mortality of 6.25 per cent., and Sir Henry Thompson's 194 operations have yielded 10 deaths, or a mortality of 5.15 per cent. The entire number, or 350 cases, show 18 deaths, or a mortality of 5.1 per cent., a result which may be improved upon, but with which we should have every reason to be satisfied.

THE ANATOMY OF THE LABIA MINORA.

It has hitherto been generally taught in all works upon anatomy and obstetrics that the nymphæ are "folds of mucous membrane." But the recent researches of Dr. Henri Carrard (*Zeitschrift für Geburtshülfe und Gynäcologie*, Band x. Heft 1) must lead to a rejection of this view. He states that, from his microscopic examination of normal nymphæ, their covering has histologically, in spite of its moist mucous-membrane-like appearance, the character of skin. Its superficial layers are formed of numerous non-nucleated, flat cells; it contains many well-developed papillæ and an abundant supply of sebaceous, but no mucous glands. Further, Carrard has found in the papillæ, as a constant condition of the terminal nerves, Meissner's corpuscles—an occurrence which is a strong argument against the nymphæ being formed of folds of mucous membrane.

Hildebrandt, in the handbook of Pitha and Billroth, has attributed vulval pruritus in many cases to enlarged capillaries in the nymphæ, comparing it to the itching caused by hemorrhoids. The pruritus observed in some cases of pregnancy, or of uterine fibroids, or of ovarian tumors—all conditions, in short, which induce a greater flow of blood to the parts, or hinder its return—may be thus caused. But Carrard has not observed this alleged enlargement of the capillaries of the nymphæ in pruritus, and, therefore, rejects Hildebrandt's explanation; but he did find upon microscopic examination of hypertrophied nymphæ removed from patients who had suffered from violent pruritus, that the enlargement concerned the connective tissue layers, and the nerves therein lying, the latter being three or four times greater than normal.

GANGLIAR DISEASE OF JOINTS.

In the *British Medical Journal*, for August 30, Mr. A. T. Norton calls attention to a hitherto undescribed destructive disease of joints, which resembles in external appearance, and often in its symptoms, scrofulous disease and rheumatic disease. It is associated with the presence of ganglions in the adjacent tendons, and the ganglions may or may not be connected with the articulation.

Gangliar disease of the joints is essentially a chronic affection, extending frequently over ten to fifteen years, and occurs almost invariably after the thirty-fifth year, elderly persons being most liable to it. It arises spontaneously, the affected joint is not tender to the touch, nor accompanied by much pain, although there is often aching, when the patient refuses to use the limb. With the progress of the disease, the joint becomes useless, the ligaments give way, and, in the case of the wrist, there is a lateral gliding motion, and the hand hangs and cannot be lifted. When the bones ulcerate and suppuration is established, pain and elevation of temperature are superadded.

The disease invariably terminates in ulceration of the bones, preferably those of the carpus and tarsus, which progresses very rapidly until all the separate pieces are affected, and some completely disappear. The synovial membrane is villous or granular, the joint is distended with fluid, and there is always associated gangliar disease of the tendons, the cyst being filled with the usual gelatinous material and melon-seed-like bodies.

The presence of ganglions suffices to differentiate the affection from common ulceration of the cartilages, or from rheumatic disease. In strumous synovitis the swelling is fluid, and not solid to the touch, as in gangliar disease. In diagnosticating from rheumatism, the enlarged bursæ which occur in that affection must not be confounded with ganglions.

The treatment is not satisfactory, as the disease is progressive. In the early stages, the ganglions and joint may be aspirated, and the limb may be fixed upon a splint, and discutient lotions be applied. When, however, the hand hangs, or the joint glides, amputation is demanded.

MISTAKES IN PROPER NAMES.

A FEW weeks ago we read in one of our contemporaries a severe criticism of the rhetorical and grammatical errors not infrequently found in our American medical journals. Unfortunately for our faith in the knowledge and accuracy of the critic, we found on another page an editorial quotation from "Sir Thomas Brown." Now, although there have been two famous British subjects of this name,—not to mention "Tom Brown at Rugby,"—neither was knighted, nor made a baronet. Sir Thomas Browne, one of the most eminent of physicians in his day, and one of the most learned and brilliant writers of his century, surely attained sufficient fame to have his name correctly spelled, above all by one who assumes the functions of a medical critic.

Mistakes in names are by no means uncommon in medical writings, and illustrations meet us both in home and in foreign productions. We have just read a paper by an eminent Boston physician in which the weird musical dream of Coleridge, *Kubla Khan*, is attributed to Carlyle. One of our Irish cousins is the author of a recent book on diseases of women, in which he refers to "Ambrose Pallen." There was an Ambrose Paré, and there is a Montrose Pallen, and justice requires that each should have his own name.

One of the most eminent of American gynecologists has more than once appeared in French writings with the Tartarean name Goodhell, and quite recently we read in a German obstetric work that a Detroit physician named "Jenkins" advised viburnum prunifolium in threatened abortion.

Sirèdey, in his recent work upon puerperal diseases, referring to the great mortality from childbed fever in the practice of the late Dr. David Rutter, then living in Philadelphia, remarks: "During the same time his *confrères*, Sir William Klame and Dr. Meigs, among others practising in the same city, did not have a single case of the disease." William Klame is a poor substitution for William Klapp, and it is not compensated for by the title of nobility which precedes it.

Charpentier classes Mundé among German authorities, just as some others have enumerated Fordyce Barker among Englishmen, and a well-known Philadelphia surgeon recently appeared in a French periodical as Dr. Gohnpackard.

SPECIAL ARTICLE.

INTERNATIONAL ELECTRICAL EXHIBITION, PHILADELPHIA.

[FIRST NOTICE.]

THE medical public have no doubt anticipated that in this great exhibition of electric appliances would be found the latest and most valuable of therapeutic and experimental instruments; and that this display of inventive genius would, perhaps, be the incentive to or the suggestion of still other new or improved instruments for physiological investigation and for the discovery and cure of disease. We are sure that these anticipations have not been in vain. The Directors of the Franklin Institute, under whose auspices the Exhibition is held, have wisely offered every inducement for the display and comparative test of all the different electrical machinery and appurtenances in which physicians are specially interested.

The collection of instruments of precision, as used now in the mechanical arts and in commerce, is very large and fine, and it must certainly offer to the electrotherapeutist some suggestions whereby he may improve his own work. The Exhibition, it seems to us, promises light especially in two departments of medical research, viz., physiology and therapeutics. When we say light, however, we ought perhaps say the sources whence light comes, for it must be remembered that the tools only are shown, and not the cunning workman who will make them do his will. In other words, we have a show of instruments, not a laboratory of experimenters. It is the object of the managers to have practical tests made by the Board of Examiners of the exhibits, the results of which tests will be embodied in a subsequent report. This will be a work of some magnitude, and the book no doubt will have high scientific value; but our readers can readily understand that in this paper we can only indicate the uses of exhibits, and not always, perhaps, vouch for results. In dentistry, also, there will probably be a handsome and unique display; while electric lighting will be utilized for surgical work in the various cavities of the body and for illuminations in microscopy.

In physiological invention the French have a deserved reputation, and their name is synonymous with elegance of workmanship as well as accuracy and ingenuity in the application. They have naturally turned to electricity to assist them in their delicate devices, and we expect a display from some Parisian workshops to which we will be largely indebted to Mr. Queen, of the Philadelphia importing house. We have had as yet but a glimpse of these instruments, which are still piled up in a sort of chaotic confusion in their showcases, but shall refer to them more in detail hereafter. They include cardiphones, myophones, laryngophones, and numerous *et cetera*, whose exact mechanism we could not master with only such assistance as a busy and harassed attendant could give us. This firm also exhibit large and powerful Toepler-Holtz machines. In therapeutics and diagnosis it is probable that the physician will derive advantage from the Exhibition, especially on the subject of tests and measurements. We have considered this to be a great desideratum in the work of the electrotherapeutist, as for exact results nothing would seem more important than to take accurately and easily in known standards the varying resistances, for instance, in different patients and limbs, and in the same patients and limbs at different times. Certainly good test instruments are not a common appendage to the ordinary medical battery. This venerable machine, as ordinarily used, is filled up, the switch turned, the patient electrified, and all is over.

We have been disappointed, so far, in finding among the medical exhibits not much, if any, evidence of even a commercial interest in such matters—and the commercial interest of an instrument-maker is a very good gauge of the scientific interest of the surrounding doctors. It is not so in the general electrical world at the big building. Among the finest displays, both pleasing to the eye and stimulating to the thirst for knowledge, are the elegant test instruments shown by several electrical supply companies. These are very elaborate, very expensive, and very delicate, and thus far we are impressed with the idea that very few of them are adapted either in price or adjustment to medical wants. Do we need such an exact galvanometer as measures to the one ten-thousandth of an ohm; or an ammetre that will measure a current of a hundred ampères; or a set of resistance coils that cost three hundred dollars?

In closing this preliminary notice we are compelled to express our regret that a few exhibitors of a doubtful character have been allowed to have space on the floors of this scientific exhibition. For instance, we notice that one of the merest traders in "Electropathy" has hung up, in a corner, to be sure, his sign announcing "The blood is cleansed by electricity only!" Here he dispenses the mystic fluid along with blue and yellow advertisements that cancer and consumption can be cured. He is aiming at business—but he has no business there. More innocent, because less deluding, is the little showcase of metallotherapy mysteries—beautiful pink-embroidered braces, and belts, and chest-protectors, fit for the finest lady in the land, and calculated, no doubt, to win some of them.

We close with the confession that we have swung the electric dumb-bell, which conceals in its innermost depths a small bisulphate of mercury cell, and as one swings it about his neurasthenic brain he feels the faradic impulses awakening his periphery.

REVIEWS.

A SYSTEM OF HUMAN ANATOMY, INCLUDING ITS MEDICAL AND SURGICAL RELATIONS. By HARRISON ALLEN, M.D. Section VI., Organs of Sense, of Digestion, and Genito-urinary Organs. 4to. pp. 585–812. Philadelphia: Henry C. Lea's Son & Co., 1884.

THIS is the last part of Allen's Anatomy. It completes a work of unusual magnitude, especially on this side of the Atlantic, and a work unique in its design in anatomical literature. Not but that many authors have here and there added random clinical notes, especially in works on topographical anatomy; but in this book the relations of every part to disease have been the systematic and pervading purpose of the work. Whether this clinical relation spring from form or structure, or function or development, or position, the accomplished author has, as a rule, seized upon the salient facts and has stated them clearly and illustrated them by copious citations of cases from the most widely diverse sources.

We are glad to see that in his preface, which is furnished with this part, he expresses his high appreciation of the Library of the College of Physicians of Philadelphia. This is second only to the National Medical Library in Washington, and has reached a size and value that make it now a necessity to any one who is working upon any subject where literature has to be studied. Its liberal management is exceedingly commendable. If now the Library of the Pennsylvania Hospital could only be consolidated with it, what a truly splendid collection they would make!

The title-page of this Section only partly expresses its contents, for there are added to it also chapters on Superficial and Topographical Anatomy, Embryology, Malformations, and Post-mortem Examinations. Each of these subjects receives a fair share of attention, yet it is evident at a glance that no one of them can be more than briefly treated in the limits assigned to it. But each will give to many readers a clear view so far as it goes, and whet the appetite for fuller works.

The clinical remarks are in general excellent and valuable. In the remarks on the teeth we are surprised however to see nothing as to dental syphilis—the most important, perhaps, of all their clinical relations. Nothing is said under the soft palate of the author's ingenious researches on the movements of the soft palate in voice. Although the clinical results of these studies are as yet hardly appreciated, yet a less modest writer would certainly have included them.

The woodcuts are excellent, and the lithographic plates are far better than the earlier ones. But they are still scarcely satisfactory, and are defaced with some errors that are to be regretted in so admirable a work. We observe errors of spelling in Plates 93, 98, 99, 103, 101, etc. The publisher's part of the work could not have been more liberally and finely done. We take leave of the work with a high opinion of its merits, and commend it to the generous patronage of the profession. Few medical men will read a page without learning or recalling some valuable fact.

BALDNESS AND GRAYNESS: THEIR ETIOLOGY, PATHOLOGY, AND TREATMENT. By TOM ROBINSON, M.D. Second edition, enlarged and rewritten. Duod. pp. 139. London: Henry Kimpton.

THAT this book has filled a generally felt want, seems apparent to the author from the fact that it has come to a second edition within eighteen months. To ourselves this want seems to have been most strongly felt by the bald and gray, of whom there are, alas, too many amongst us, since Dr. Robinson's book appeals to the external, rather than to the internal portion of the cranium. In other words, with the usual farrago of learned remarks about the true skin and the scarf skin, etc., and the array of unverifiable and vague quotations which we are accustomed to meet with in treatises of this kind, we find that but little accurate information regarding the physiology and pathology of the hair, and not much of value regarding the treatment of its diseases. The work seems to be written rather for the layman than for the practitioner.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF VIRGINIA.

Fifteenth Annual Session, held at Rawley Springs, September 9, 10, and 11, 1884.

(Specially reported for The Medical News.)

Tuesday, September 9th—First Day.

The fifteenth annual session of this State Society convened at Rawley Springs, Rockingham County, at 8.30 p.m. By the invitation extended last year by the Managers of these Springs, the Society was entertained as their guests. There were about one hundred and thirty members present.

The President, Dr. J. E. Chancellor, of Charlottesville, called the session to order, and Dr. M. G. Ellzey, of Washington, D. C. (who is the Summer Resident Physician at these Springs), delivered an *Address of Welcome*, which not only imparted some local information, but also conveyed a cordial greeting.

The President introduced Dr. Robert I. Hicks, of Casanova, Fauquier County, Va., who read the Address to the Public and the Profession, entitled

HYGIENE IN RELATION TO THE PRIVATE FAMILY.

He began by showing the important relation existing between individual sanitation and the public health. He briefly described the investigations of Pasteur, Davaine, and Koch in connection with the germ theory; explaining the microbes, bacilli, vibrios, and spores found by these observers in different forms of disease, and suggested that his hearers be not too ready of belief as to these microörganisms producing disease, as they may be simply accompaniments of the disorders named. After this question is settled, there remains the most important thing to be done, *i. e.*, how best to destroy them. He enumerated the different abiding places of these germs, and showed that by destroying the conditions of their existence we destroy them.

Wednesday, September 10th—Second Day.

Morning Session.

Upon call for reports on advances in the different departments of medical science,

THE REPORT ON ANATOMY AND PHYSIOLOGY

was read by Dr. L. B. Edwards for Dr. Hugh T. Nelson, of Charlottesville, Va., who was unavoidably detained at home. In the *blood*, he stated that a third blood-corpuscle or hæmatoblast had been discovered by Bizzozero, of Turin, which observation had recently been confirmed by Leker and Fred. Rauschenbach. It is a disk with either parallel or biconcave surfaces, one-third smaller than the red corpuscles, and ranking in number between the red and white disks. Their function is seen in their coagulation, which was formerly attributed to the white corpuscles. They play an important part in thrombosis and embolism, in septic fevers, and in operative surgery. They are especially abundant in cachectic and in anæmic blood.

In regard to *digestion*, Poehl found that all the tissues of the body possess some peptic power, and suggests that the ferment in the lung tissues dissolves and digests the fibrinous exudation of croupous pneumonia. Poehl maintains that gastric or tryptic digestion is simply a soaking of the albumen with water to its utmost capacity, and that the different forms of albumen are digested in proportion to the rapidity with which this absorption of water takes place. Peptone, then, is a modification and not a decomposition of albumen. Hence peptonized foods are fast superseding the use of meat extracts in practice.

Dr. Nelson thought the day near at hand when practical benefits would result from the study of *cerebral localization and cerebral nerve-tracts* which is now being carried on by competent workers. Valuable statistics, showing the use of the trephine in traumatic epilepsy, were given. Charcot and Pitres's investigations as to the locations of the motor and non-motor zones were mentioned. The conclusion is arrived at that the *visual area* lies in the occipital lobes. *Auditory impressions* are received by the first temporal convolutions on the right side for the left auditory nerve, and *vice versâ*. The power of *recognizing words* is located in the first left temporal convolution in right-handed persons, and *vice versâ* for left-handed persons. *Odors* impress the temporo-sphenoidal region of the base of the brain. The *taste* centre is not yet located. The sense of *general sensation* is located in the cortical cells of the central convolutions, and in those parts of the parietal convolutions adjacent to the posterior central convolution. The centres presiding over *articulate language* are in the convolutions about the fissure of Sylvius—the left side in right-handed persons, and *vice versâ*. The *ideo-motor power* resides in the third frontal and adjacent part of the anterior central convolutions. Next, it was shown that there exist direct nervous tracts between the cortex cerebri and both motor and sensory nerves, and a system of nerve-tracts in connection with the optic thalamus. A system of nerve-fibres pass from the cortex cerebri to the gray centres of the pons. Several distinct nerve-tracts are also found in the tegmentum of the crus cerebri, lying beneath the corpora quadrigemina.

Dr. Wm. C. Dabney, of Charlottesville, Chairman of the Committee on Medical Legislation, reported that, aided by Mr. John B. Moon, of the House of Delegates of Virginia, and Senator Trout, of Roanoke, a bill was enacted which, while not entirely satisfactory, provides for

A STATE BOARD OF MEDICAL EXAMINERS,

before which every applicant for practice after January 1, 1885, must pass a satisfactory examination before receiving a license to practise medicine or surgery. Two examiners at large are to be elected by the Society, as also three from each of the ten electoral districts of the State. A fine of $500 is to be imposed upon those who do not comply with the terms of the law.

At 11 a.m., Dr. J. Edgar Chancellor, of Charlottesville, proceeded to deliver the

ANNUAL ADDRESS OF THE PRESIDENT.

After a few pleasant introductory remarks, congratulating the Society upon the growing interest manifested in the annual meetings, by the increased attendance and the character of the papers presented—he alluded to the progress made since the last meeting in securing a partial recognition of the rights of the profession, by legislative enactment in the passage of the Anatomy Bill and the Act establishing a State Board of Medical Examiners by the Legislature of Virginia. But he said that, as gratifying as this may be, there yet remained much to be done.

With his greeting was mingled the sad duty of bearing to the Society the tidings of death's doings among the membership during the present year, stating that it had been a year of unusual mortality among the older members especially. Some six or eight of the charter members had died, and several of the younger Fellows. Among these were three ex-Presidents, one a distinguished teacher of the Medical College of Virginia.

He then passed to the consideration of his subject—*Origin and History of Ancient Medicine.* He took up the history of those men who were most prominent in the practice of medicine under the different systems and schools of medicine, remedies, etc. He then referred to the importance of proper organization, and of selecting proper persons who are to constitute the Board of Medical Examiners for the State. He urged that it should be an independent body, and thought that no person directly or indirectly connected with a medical institution should have a place upon the Board. He did not consider the bill establishing the Board of Medical Examiners perfect, though a great advancement in the right direction, and advised the appointment of a committee to examine and, if necessary, recommend amendments, etc.

DR. JOSEPH A. WHITE, of Richmond, presented a volunteer paper on

NASOPHARYNGEAL OBSTRUCTION AND HYPERTROPHIES IN THEIR RELATION TO HEARING.

Dust, such as arises from the macadamized streets of our cities, is one of the most active and prolific causes of nasopharyngeal irritation. Changes of climate, and moisture in winter, are also special irritants that bring about catarrh and hypertrophies of the membrane lining the nose and nasopharynx. His experience bears out the assertion that deafness is a frequent result of vegetation in the upper pharynx. After some minor suggestions, he said that all cases of middle-ear disease, whether acute or chronic, are accompanied, more or less, by nasopharyngeal changes. And every case of nasal obstruction resulting in mouth-breathing, and all cases of obstruction of the lower nasal meatus, even where the air current can still pass through the upper passages, will, sooner or later, become more or less deaf, if the obstruction is allowed to remain. He remarked that posterior rhinoscopy is not of much service in little children, but the *tactus eruditus* is of great value. Put one arm around the child's neck, with the fingers on the cheek so as to prevent biting of the examining finger by pressing the soft tissues of the cheek between the teeth. Then pass a finger up behind the uvula and explore the post-nasal cavity. Vegetations feel like a bunch of worms; hypertrophies are smooth and hard. In adults, if there is difficulty in examining, he passes a No. 1 bougie, with a small-sized piano-wire inside, along the lower nasal meatus into the pharynx, and draws it out of the mouth, in the same way that Bellocq's canula is used. Then tie the two ends of the wire together over the upper lip, or draw a small tape through, and by means of this forward traction of the soft palate one gets a fair view of the nasopharynx.

Anterior hypertrophy of the turbinated tissues can be removed by the cold snare or by galvano-cautery. Glacial acetic acid applied to the surfaces, with intervals of several days, is often successful. Chromic acid is also used in the same way. Sometimes these hypertrophies subside spontaneously, especially if in connection with posterior hypertrophies.

Nasal polypi, if large, can be removed by the snare; but when small evulsion is the best method, and the points of origin touched with chromic acid or the galvano-cautery.

Deflection of the septum, if slight, should be left alone. If sufficient to cause stenosis, any accompanying hypertrophies should be removed or destroyed, and the deflected portion perforated and forced back into position by clamp forceps and plugs, or by flat laminaria tents.

Outgrowths from the septum can be cut off by the bistoury or snare. Counter applications are not serviceable.

Hypertrophy of the pharyngeal tonsil can be removed by the cold or hot snare or by the cutting forceps, or by burning with the galvano-cautery.

Posterior hypertrophy of the turbinated tissues is best removed by the wire snare or by the galvano-cautery.

Chromic acid is the best of the chemical cauteries. It destroys the tissue to which it is applied without "running." Warm water instantly relieves any pain it may cause, especially if associated with bicarbonate of sodium. Poisoning from its use is easily prevented by douching the parts with warm water as long as the water becomes tinged by the acid. Of course, warn the patient not to swallow.

Anything that produces an ulceration of the mucous membrane over the septum will produce perforations because the cartilage receives its nutriment from its mucous covering, but the perforation is limited in extent. If workmen would wear wool pellets in their nostrils, they would not suffer so much. In fact, all persons, working in dusty or "fumy" places ought to wear wool or cotton loosely packed in their nostrils during the hours of their work. He opposed the view of Dr. Donaldson, of Baltimore, as to the value of chromic acid in cases of hypertrophy of the tonsils, unless the hypertrophy was soft and yielding. In *dense* hypertrophy of the tonsils, extirpate.

AFTERNOON SESSION.

The order of business being the

ELECTION OF OFFICERS,

much discussion occurred as to the manner of entering upon the task.

By large majorities, and, in some instances, by unanimous vote, the following officers for the ensuing year were elected:

President.—Dr. Samuel K. Jackson, of Norfolk, Va.

Vice-President.—Dr. Jesse Ewell, Sr., of Hickory Grove, Prince William County; Dr. Benjamin Blackford, of Lynchburg; Dr. R. I. Hicks, of Casanova, Fauquier County.

Recording Secretary.—Dr. Landon B. Edwards, of Richmond.

Corresponding Secretary.—Dr. Hugh M. Taylor, of Richmond.

Treasurer.—Dr. R. T. Styll, of Richmond.

EVENING SESSION.

The Society convened at 8 P. M. It was engaged from this hour until nearly 2 A. M. in electing members of the

STATE BOARD OF MEDICAL EXAMINERS.

First District.—Drs. S. W. Carmichael, of Fredericksburg; O. B. Tinney, of Onancock; W. W. Douglas, of Middlesex County.

Second District.—Drs. Thomas B. Ward, of Norfolk; L. Lankford, of Bowers, Southampton County; Jesse H. Peek, of Hampton.

Third District.—Drs. R. A. Lewis, of Richmond; Charles R. Cullen, of Richmond; O. A. Crenshaw, of Richmond.

Fourth District.—Drs. William J. Harris, of Nottoway; Hugh Stockdell, of Petersburg; J. Herbert Claiborne, of Petersburg.

Fifth District.—Drs. W. L. Robinson, of Danville; T. B. Greer, of Rocky Mount; and Rawley W. Martin, of Chatham.

Sixth District.—Drs. Harvey Black, of Blacksburg; H. Gray Latham, of Lynchburg; and Oscar Wiley, of Salem, Roanoke County, Va.

Seventh District.—Drs. William P. McGuire, of Winchester, Va.; J. H. Neff, of Harrisonburg; Hugh T. Nelson, of Charlottesville.

Eighth District.—Drs. C. C. Conway, of Rapid Ann Station; Bedford Brown, of Alexandria; and Alex. Harris, of Jeffersonton.

Ninth District.—Drs. S. W. Dickinson, of Marion, Smyth County; Robert J. Preston, of Abingdon; and R. D. Huffard, of Chatham Hill.

Tenth District.—Drs. Henry M. Pattison, of Monterey; Z. G. Walker, of Gishe's Mill; and —— Merriwether.

(*To be concluded.*)

CANADA MEDICAL ASSOCIATION.

Seventeenth Annual Meeting, held at Montreal, August 25, 26, and 27, 1884.

(Specially reported for THE MEDICAL NEWS.)

AUGUST 25TH—FIRST DAY.—MORNING SESSION.

THE first general meeting took place at 10.30 A. M., when Dr. Mullen, of Hamilton, Ont., the retiring President, introduced **DR. SULLIVAN**, of Kingston, Ont., the **PRESIDENT-ELECT.**

DR. HINGSTON, Chairman of the Committee of Arrangements, welcomed the Association on behalf of the profession of Montreal.

The meeting was the largest which the Association has held for some years, and a number of the medical members of the British Association for the Advancement of Science took part in the proceedings. Among these were Mr. Lawson Tait, of Birmingham; Drs. King and McMillan, of Hull; Drs. Gaye, John Wood, John Harley, Protheroe Smith, Heywood Smith, and Hack Tuke, of London; Prof. J. D. Cunningham, of Dublin; Prof. Struthers, of Aberdeen; Dr. Alexander, of Halifax; and Prof. McKendrick, of Glasgow.

Among the American visitors were Drs. Bowditch, of Boston; Brodie and McGraw, of Detroit; Brush, of Utica; and Murphy, of Kansas City.

The morning session was occupied with routine work, and with the reception of reports of committees.

AFTERNOON SESSION.

At 2 P. M., the **PRESIDENT** delivered

THE ANNUAL ADDRESS.

After thanking the members for having placed him in such an honorable position, he proceeded to give an account of the organization of the Association eighteen years before, at the time of confederation of the provinces, and spoke of the benefits which had resulted to the profession.

SURGICAL SECTION.

DR. RODDICK in the Chair. The first paper was read by **DR. BLACKADER**, of Montreal, on a

CASE OF CONGENITAL HYPERTROPHY WITH LIPOMA OF THE FOOT.

In this case there was also local hypertrophy of the parts in immediate juxtaposition to the lipoma. The literature upon this subject is not extensive, but Curling, Reid, and Wagner have reported cases, and Dr. Wm. Anderson, of St. Thomas's Hospital, has, with his case, given a *résumé* of our knowledge upon the subject up to date. The growth might be defined as a gigantic hypertrophy of the various segments of the body, exclusive of the viscera, unilateral, usually implicating the bony and integumentary structures, and generally associated with lipoma. The growth does not, as a rule, impair the functional activity of the parts involved, and in most cases might be relegated to a status lower than that of true hypertrophies.

No exciting cause can be given. Mental impressions upon the part of the mother during gestation, are quoted as being such, but Anderson fancies them to be mere coincidences. The extent of the growth may vary, and involve only a single digit, or, on the other hand, one-half the body. It does not appear to be limited to vascular or nervous territories.

The growth is painless. Anderson divides these hypertrophies into true and false. The first class is a small one, and includes those cases in which all the structures of the part are involved. The second or larger class includes all cases in which the hypertrophy involves one or more of the structures of a part, leaving the rest, it may be, in a natural condition. Practically, we may divide our cases into those with or without deformity.

The pathology of the subject is obscure. Partial intra-uterine strangulation has been suggested; stagnation of lymph has also been suggested. In the lipomatous form the altered nutrition is due to lymph stasis, while the hypertrophy is due to an augmented venous supply.

The one condition necessary for their production is an interference with the flow of lymph due to absence of the valves, ectasia, or other cause. The shape is irregular, as a rule. The locality varies, only one having been noticed upon the head; a common seat of election is the lumbar and gluteal regions, commoner still is the hand.

The *history* of the case before the meeting was as follows: In March, 1883, delivered Mrs. S. of her fourth child; confinement normal in every way; child heavy and well-formed, except as regards the left foot. The legs and thighs were the same in size and form, but the anterior half of left foot presented a smooth and elastic tumor, large and well rounded. The second and third toes were webbed and projected half an inch beyond the great toe; there was no tenderness or increase of temperature in the part, but movement was deficient. In a month it had increased in size, so a Martin's India-rubber bandage was applied for the sake of continuous pressure. This irritated the child, so the mother discontinued its use, and Dr. Blackader did not again see the child till January, 1884, when Dr. Fenwick was called in consultation and advised a renewal of the former mode of treatment. This giving no relief, an operation was performed by Dr. Roddick.

Before the operation, the heel was noticed to be enlarged. From the centre of the plantar surface the tumor arose as before described. The great toe was not enlarged, but the little toe was twice the size of the corresponding toe of the opposite foot. No apparent affection of either the lymphatic or venous systems was noticed. The second, third, and fourth toes were removed, and the anterior two-thirds of the corresponding metatarsal bones also. The operation was done with antiseptic precautions; no rise of temperature followed, and on the tenth day the stitches were taken out. Upon examination of the bone removed, the epiphyses were seen to be enlarged, but the diaphyses were not affected to any extent.

Dr. Kerr, of Winnipeg, mentioned the case of a child four years of age, who is now under treatment, and has had the disease for three years. The child has only been under observation for nine months, but in that time no increase in growth has been noticed.

Dr. Osler had also seen a case a few years ago in which there was general and progressive enlargement of the right upper limb—bones, muscles, and fingers all being enlarged. The pad of the hand was especially enlarged, due to increase in the amount of fat. The grip of that hand was much more powerful than that of the other. He asked Dr. Blackader if, at the time of operation, the muscles were seen to be hypertrophied.

Dr. McGraw, of Detroit, gave the details of a case which he had seen in Langenbeck's clinic in 1861. This was the case of a girl, aged sixteen, in whom there was enlargement of the left lower extremity, and left side of pelvis. All the structures of the limb were immensely enlarged, especially the bones; and the weight of the limb was such that the girl could not walk. No complication with any tumor was noticed.

Dr. Blackader, in reply, said that the cases quoted by Dr. Osler and Dr. McGraw belonged to Anderson's division of true hypertrophies. His own was a case of false hypertrophy, the muscles not being enlarged, and the tissues composing the enlargement being of the nature of a true fibroid lipoma, the bones, ligaments, and fatty tissues being alone hypertrophied.

Dr. Proudfoot, of Montreal, exhibited a case of

SYPHILITIC ULCERATION OF THE SOFT PALATE AND PHARYNX.

Disease began in the cartilaginous septum of the nose, and thence extended. The chancre occurred five years previously. In answer to Dr. Sullivan, Dr. Proudfoot detailed his treatment of the case, viz., ⅛ gr. of bichloride of mercury, in conjunction with iron and ammonia, three times a day. Dilute hydrochloric acid was used topically.

Dr. Fulton, of Toronto, then read a paper on

THE THORACO-PLASTIC OPERATION OF EASTLNDER.

The paper was confined to the treatment of empyema. Resection of a portion of a rib for the evacuation of pus has long been practised, but Estlander by his method tried to obliterate the suppurating cavity and cause occlusion of the pleural fistula. Of 50 cases reported by Dr. Colman in which the ordinary method of treatment by incision, drainage, and disinfection of cavity was practised, 50 per cent. recovered, 33 per cent. died. and in 17 per cent. of the cases the fistula remained. The fistula usually results from the formation or existence of a cavity between the thorax and lung, lined by pyogenic membrane.

The size of the cavity varies indefinitely, as does also the amount of discharge. A slight but long-continued discharge is dangerous, as amyloid or tuberculous disease may follow. The rationale of Estlander's operation is to remove a portion of one or more ribs, and let the chest-wall sink, so as to allow of the layers of pleuræ coming in contact.

The following case was then narrated. M.B., aged 28, came under Dr. Fulton's care in November, 1883; personal and family history good. During May and June of the year 1882, patient's chest had been aspirated for accumulation of fluid, and serum removed. In June of 1882, pus was found, and from that time on till July, 1883, the discharge continued, and the cavity was washed out regularly with salicylic acid. Upon admission patient was found to be spare and anæmic, with slight hectic; in the axillary line between the seventh and eighth ribs of the right side the opening was situated. The left lung and upper portion of right lung was normal.

The discharge averaged about an ounce daily and the cavity was regularly washed out, but no improvement being noticed, an operation was decided upon and performed as follows: An incision five inches long was made in the side of the chest, and parallel to the sixth and seventh ribs. The periosteum of the rib was divided and raised on each side; and three inches of the rib removed. The upper margin of the wound was then raised, and a portion of the sixth rib was removed in like manner. The slight hemorrhage was arrested by torsion, the cavity was washed out with carbolic acid lotion, and a large drainage-tube was inserted. The temperature rose but slightly and recovery was uninterrupted. The cavity was washed out daily with carbolic acid and tincture of iodine, and the patient left the hospital March, 1884. She has now improved in general health, the cavity is gradually closing up and Dr. Fulton thinks that within a month the drainage-tube may be discarded. The ends of the resected ribs can be felt, but the space between feels firm, and osseous deposit is no doubt taking place.

Dr. Fulton thinks that the operation is indicated in chronic cases of empyema which have resisted ordinary methods of treatment for some time; also in cases in which a fistula has remained for five or six months, and in which there are no signs of tubercle or albuminuria. Estlander has performed the operation with success in delicate subjects and under the most adverse conditions. The incision must depend upon the situation of the cavity and position of the fistula, but the lateral situation is best. Portions of two, three, four, or even six ribs may be resected, but for obvious reasons no interference is permissible with either the first, second, eleventh, or twelfth ribs. There is usually but little hemorrhage, and the woudd is easily united, drained, dressed, and dried. In some cases an elastic bandage about the chest has aided in occluding the cavity.

Dr. Hingston, of Montreal, thought the subject of operating in empyema a difficult one, for two cases are seldom seen exactly alike. He thought that Estlander's operation would be more successful if portions of more ribs were removed to a less extent. He has found that in many cases the excision of one or two ribs has had no effect in aiding the occlusion of the cavity. If the operation be thought of, he would not advise haste, for he considers it a serious operation, and has often had cases heal in from twelve months to two years, after thorough and regular washing out of the cavity. Of course, if the health of the patient be giving way, we might interfere at once.

Dr. Kerr gave a short account of a case which he had seen in consultation. It was one in which a free incision had been made; the patient was then sent to the seaside, and her general health attended to. On her return the extent of secreting surface appeared to have diminished, for the discharge had lessened materially.

Dr. Holmes had had no experience with Estlander's operation, but has drained, and he thinks that if cases of empyema were earlier treated, less disastrous results might ensue. He thinks that the slow obliteration of the cavity is often due to the fact that pus has remained in the cavity for a long time, and by its presence has, in some way or another, interfered with the vitality and tone of the membrane.

Dr. Roddick spoke of the treatment pursued in the Montreal General Hospital. A single opening is made, portions of the ribs may be removed, and a large oval metallic drainage-tube is then introduced one-half to three-quarters of an inch. The cases are treated with antiseptic precautions, the spray being used; but in the after-treatment injections are not used too often. For injection the solutions of boracic and salicylic acids are now used instead of carbolic acid. He has never needed to remove more than a portion of one rib. In children, he has found repeated aspirations all that are needful.

Dr. Sherriff, of Huntingdon, described

A NEW METHOD OF TREATING HEMORRHOIDS BY CRUSHING,

as performed by Mr. Pollock, of St. George's Hospital, London, and as related by him in *Braithewaite's Retrospect*, for January, 1881. Dr. Sherriff gave the details of the case of a man, aged thirty-five, who had suffered long from hemorrhoids, and in whom Pollock's method was followed. There was no hemorrhage, patient was well in a few days, and when last seen, two and a half years since the operation, had had no return. The sudden destruction of the parts by crushing does away with the hemorrhage and pain, hence he thinks that general anæsthesia is not necessary in all cases.

Dr. Hingston thought the instrument shown by Dr. Sherriff a good one, but was afraid that if too much be removed at one sitting stricture would be apt to follow. He instanced a case in point, in which a stricture occurred after the removal of the hemorrhoids by the écraseur; it was the worst stricture he had ever seen, and was not amenable to treatment. He suggested that only one-half of the bowel be treated at once. Dr. Hingston uses the écraseur; seizes the hemorrhoid by a pair of Péan forceps, slips the écraseur over those caught, and then works the instrument quickly.

Dr. Tye, of Chatham, thought but little trust should be placed in topical applications. He has used the ligature and Smith's clamp and cautery, but since reading Pollock's paper, has used a pair of blunt scissors for crushing purposes, with after-use of the cautery.

Dr. Roddick thought that the use of Smith's clamp and cautery gives the best results. For the last eight years he has done that operation exclusively, and without a single bad result. He uses the thermo-cautery instead of Smith's irons. He removes the piles freely with the curved scissors, leaving about one-eighth of an inch in the grasp of the clamp. He has had no hemorrhage, and never a case of tetanus. In compound cases he dissects the pile out by an elliptical incision, suturing and dressing with iodoform, and does not clamp in these cases.

Dr. Taylor has used injections with great success, using for the purpose 1 part of carbolic acid to 10 parts of glycerine.

Evening Session.

Dr. Fenwick, of Montreal, read a paper on

ABSCESS OF ABDOMINAL PARIETES EXTENDING FROM MECKEL'S DIVERTICULUM.

This was the case of a girl, aged twelve, of full development, who suffered from an abscess in the abdominal parietes, situated below the navel and to the right side. The abscess was opened, and pus and what appeared like grumous blood escaped, but not in very large quantity. The abscess continued to discharge for several months, the opening decreased, but a sinus was left leading downwards from the umbilicus to the right side, four inches in length. On the 25th of April, 1882, the sinus was slit up, and in a month, when the sinus was nearly closed, the child went home, and by the middle of June it had completely closed.

The girl being active and fond of exercise, ran about a good deal, and the abscess reformed. This was treated by poultices, and in a few days it burst and began discharging. In October, Dr. Fenwick again saw her and found a sinus as before, which he again slit up. In February, 1883, another abscess formed, which was treated in the same manner by the local surgeon. Toward the end of 1883 the same trouble recurred, and a sinus was again left. This time the physician in charge dilated the sinus by sponge-tents. On the 11th of May, 1884, the girl again came under Dr. Fenwick's care, and while examining the case next day, feces were noticed mixed with the pus, and Dr. Fenwick then thought that the abscess must be in communication with the intestine. In consultation with Dr. Roddick, it was decided to operate, and on the 16th of May the abdomen was opened, under antiseptic precautions, by an incision four inches in length, extending downwards from the umbilicus in the median line. Upon examination a blind duct was found attached to the abdominal wall, and at the extreme end of the diverticulum a hard mass or concretion was found. The diverticulum was separated from the abdominal wall, and it was then found that its extreme end was open and in direct connection with the sinus in the abdominal wall. Through this opening a fine probe could be passed. The end of the diverticulum was opened, the concretion removed, and the free end sutured with catgut, that had been soaked in chromic acid. After closing all bleeding points, the abdominal parietes were brought together and a drainage-tube introduced. The case progressed slowly but favorably till the middle of June, when diarrhœa and vomiting came on. The stomach was so irritable that rectal alimentation had to be employed. There was high fever, pulse wiry, etc., but on the 16th of June a change for the better took place, the temperature fell and the pulse became normal. On the 12th of July the patient left her bed and in a couple of weeks returned home. The diverticulum appeared to be from six to eight inches long, it was attached to the small intestine and passed directly upwards and backwards from its attachment to the abdominal wall. It consisted of all the intestinal coats, serous, muscular, and mucous, and had a portion of mesentery attached to it. Since her return home, the parents have written to say that the girl is gradually improving in general health. The concretion removed appears to be a mass of hardened feces, encrusted with phosphate of lime.

DR. R. P. HOWARD, of Montreal, had seen the patient with Dr. Fenwick. He recently was consulted by a young man for acute inflammation about the umbilical region. Matter was being discharged and the navel itself was granulating and discharging pus. The induration was deep in the abdominal parietes, but as the exact seat could not be exactly made out on account of the thickness of the walls, he advised the patient to go to bed for rest, and to apply poultices. In a few days a small concretion about the size of a bean was extruded during attempts to press out the matter, and the patient said that five such had passed before. Since that time the patient has entirely recovered. Dr. Howard thought that in this case there was a connection with the bowel, probably through the remnants of the umbilical duct, which had remained patulous; a foreign body had lodged in it, irritation and inflammation were set up, and an abscess formed.

DR. KING, of Hull, England, in connection with the above cases, mentioned a species of abscess which began as a hard deep-seated swelling, making it difficult to tell whether intra- or extra-abdominal. He thinks they probably begin in the muscles, and as they form sink toward the inguinal region, where they appear as carbuncular swellings, which, when opened, heal quickly.

MR. LAWSON TAIT, of Birmingham, thought the calculus, as found by Dr. Fenwick, should be cut, to remove an element of doubt as to whether it was made up of cholesterin, and therefore hepatic in origin. He thinks that no case should be allowed to run for any length of time after feces have been discovered mixed with the pus, and advises immediate opening of the abdomen, that the source of trouble may be found and removed. He discountenances strongly the traditional fear of any interference with the peritoneum.

DR. FENWICK in reply, agreed with Mr. Lawson Tait that we should allow no patient to exist in such a condition when feces have been noticed. He said that in his case no feces were noticed till within a few days of the operation.

DR. SULLIVAN, of Kingston, asked Mr. Tait by what means could we tell whether an operation was necessary or not. He instanced a case of abdominal abscess in which there was much inflammation, and but little pus was obtained upon incising, and that which did come away had an intensely bad odor, as bad as though the abscess had been in the rectal region.

MR. LAWSON TAIT, in reply, said we could only find out by going in to see! He advised the application of the ordinary surgical rule, viz., open the abscess, as though it were in the arm or the thigh.

DR. SHEPHERD, of Montreal, read the next paper, on

LIGATION OF THE ANTERIOR TIBIAL ARTERY IN A CASE OF COMPOUND FRACTURE OF THE LEG.

This was the case of a French quarryman who, while at work, was struck by a stone, and had both bones of one leg broken at the junction of the upper and middle third of the leg. On admission to hospital, a compound fracture was found. The leg was put up in plaster of Paris, leaving an opening opposite the wound for purposes of dressing. The wound was dressed with iodoform. On the next day, oozing of blood occurred, requiring change of dressing. In a few days, the temperature rose, and on examining the wound, a pulsating tumor was felt. The next day, the tumor had increased; so the bandages were removed, ether administered, an Esmarch's tourniquet applied, the wound enlarged, blood-clots turned out, and Dr. Shepherd proceeded to search for the anterior tibial artery. The muscles being very much torn, the usual method of procedure was abandoned, and the interosseous membrane was reached by separating the tibialis anticus muscle from the bone. The artery was found by occasionally relaxing the tourniquet. The artery in this case was not completely torn through. After a ligature had been applied above and below the wound, a half inch of the lower end of the tibia was removed, and the ends sutured with silver wire. Drainage was used, and the wound dressed with iodoform and borated cotton. For the first few days, the discharge of pus was profuse, and several small pieces of dead bone came away, but the patient went on to recovery, and was discharged well.

This operation is rarely performed, for it is rarely called for. Dupuytren, in twenty-three years, had seven cases of diffuse aneurism due to fracture of the leg-bones; but in those cases he advised ligature of the femoral. Dr. Shepherd gave the treatment as advised by Bell, Guthrie, Hamilton, and Holmes, but he thinks that in these days we should always search for the wounded artery, and ligate it at the part torn.

DR. SULLIVAN thought the result remarkable; but fancied that, if the artery had been wholly divided, the hemorrhage might have been controlled by ordinary means.

Drs. Fulton, Giles, Girdwood, Holmes, and Proudfoot also entered into the discussion, citing cases of simple wounds in which ligature of the artery involved became necessary.

Dr. Shepherd, in reply, thought the discussion had wandered from the point, as all surgeons were agreed upon the advisability of cutting down upon and tying both ends of a wounded artery; but what was the best treatment in cases of wounded artery complicated by a compound fracture?

Dr. Gardiner, of London, Ont., read a paper on

BURNS AND THEIR RESULTS.

He said that he had performed tracheotomy in a few cases after inhalation of hot air or steam, and has had one recovery. He finds tetanus a common complication, especially after coal-oil burns, and thinks amputation in such cases gives the only chance of success.

Dr. Stewart, of Montreal, then read a paper on

THE ACTIONS AND USES OF NAPHTHALIN.

This glossy crystalline powder is a powerful preventive of decomposition in organic fluids. He kept eight ounces of urine sweet for three weeks by twenty grains. He has also kept serum of milk, pus, and infusion of pancreas pure. Vegetable and animal parasites are quickly killed by it. It does not cause irritation when applied to the unbroken skin, though it may cause smarting temporarily in wounds, but does not induce redness or swelling. Its use renders large wounds quickly antiseptic, and it does not in any way hinder free discharge. Its internal effects are but little known. It colors the urine, showing that it has been absorbed by the blood; but this is not a sign that untoward events may occur, as is the case after the use of carbolic or salicylic acids.

It is of practical use in septic chronic ulcers, and in septic burns, and in such cases was the best antiseptic that can be used. Dr. Stewart has used it in many cases of deep ulceration, and has often—in cases in which two ulcers occur on the same limb—compared its action with that of iodoform, by treating one ulcer with naphthalin and the other with iodoform; the one treated by naphthalin healed much quicker. When a wound becomes antiseptic, iodoform often interferes with the healing process, whereas naphthalin promotes it. It is more powerful, and at the same time less irritating than carbolic acid. It may be used in the form of powder, gauze, or jute. In cases of putrid ulcers, he applies the powder by dusting; and when the wound becomes antiseptic, he applies the gauze or jute till the ulcer heals.

Dr. Shepherd agreed with Dr. Stewart that iodoform is useless in granulating wounds, and in such wounds he uses either naphthalin or balsam of Peru, but thinks the latter best, especially as a stimulant. He often uses the jute in bags of washed gauze, and applies these directly to the wound.

Dr. Roddick has used naphthalin frequently in old burns and in chronic ulcers, and has been much pleased with it. He uses it combined with boracic acid to facilitate the dusting, for it is a damp substance and difficult to powder. By using boracic acid you get a fine powder, and one that is easily applied. Dr. Roddick makes his own jute, by dusting boracic acid and naphthalin into the jute. He often sprinkles it upon the padding of fracture-splints; this, in warm weather, might be a consideration, where the patient perspires much.

Dr. Reeve, of Toronto, then read a paper on

BRIEF REMARKS UPON FIFTY CASES OF TREPHINING OF THE MASTOID.

The gravity of suppurative otitis is heightened by the fact that, as a rule, the mastoid antrum, and often the other air-cells are pathologically an integral part of the middle ear (tympanum); the necessity for the operation would be markedly diminished were prompt and vigorous treatment of acute inflammation of the middle ear more generally adopted—rest, local depletion, irrigation, anodynes, vapor bath, incision of inflamed bulging drum-head, etc., would very frequently abort or curtail the disease. Chronic suppurative otitis, also, should never be neglected, but be arrested or controlled by appropriate means. The three main pathological conditions in which the operation is indicated are unrelieved suppurative periostitis of antrum, etc., ostitis with caries, and ostitis with hyperostosis and eburnation or sclerosis (condensing ostitis, Buck). Protracted delay is inadvisable. The statistics of the operation are incomplete, but eight deaths are known. Only one, however, is fairly traceable to the operation (middle fossa entered), and several are seemingly due to general or concurrent disease; in one instance the lateral sinus was opened, but patient recovered. The operation is a valuable and comparatively safe one.

Medical Section.

Dr. Thorburn, of Toronto, in the Chair.

Dr. Campbell, of Seaforth, gave an account of some cases of *Puerperal Septicæmia.*

Dr. Dupuis, of Kingston, read a paper on *Nostrums and Medical Advertising.*

Dr. R. L. MacDunnell, of Montreal, exhibited two cases of *Spastic Spinal Paralysis.*

Dr Harrison, of Selkirk, reported a *Peculiar Case of Cerebro-spinal Meningitis.*

Dr. Henry Howard, of Longue Pointe Asylum, Montreal, read a paper entitled *Materia Cogitans.*

Dr. Lett, of the Homewood Retreat, Guelph, Ontario, then read a paper on

THE OPIUM HABIT.

The extent to which the opium habit, or, more properly, disease, exists, may in some degree be judged of by noting the large quantity of opium yearly imported into America. In the year 1882, it reached over three hundred thousand pounds. The methods of its habitués are varied: some smoke the drug, some snuff it, others eat the gum, or drink laudanum, paregoric, or other preparations containing it. The most common mode, however, is the employment of the hypodermatic syringe. The effects of the drug upon the human system, when habitually used, are dreadful in the extreme. When a confirmed opium-taker is deprived for any length of time of his accustomed dose, few pangs to which human flesh is heir are comparable to his. Abruptly to cut off the supply which his system craves, entails frightful tortures. The causes which induce the habit are various. Few adopt the habit voluntarily; many resort to it to induce sleep or quiet nervous restlessness; but by far the greater number of opium-takers have had the drug administered to them for the relief of pain, either mental or physical. Such patients are entitled to our sympathy and aid; the habit in these is not a vice, but a disease, and, as such, requires to be treated.

Of the pathological changes which take place in chronic opium-poisoning, nothing has been clearly demonstrated. That there are changes has been assumed rather than ascertained by microscopical research. It does not seem to be the case that these changes are permanent; and herein consists one of the great differences between alcoholic and opium inebriety. Both, however, tend to moral obliquity; yet, while alcohol often arouses violent and dangerous emotions, those produced by opium are more placid, its victims, as a rule, being kindly disposed, but extremely cunning.

There is no known antidote to chronic opium-poisoning. What, then, is the course to be pursued in treating these cases? Shall we cut the drug off at once? No doubt, this can sometimes be done successfully; but such cases are rare. More frequently, the abrupt withdrawal of all opium is followed by the most alarming symptoms and the most acute torture, leading to suicide or to death from exhaustion. There appears to be only one method by which these cases can be successfully treated: this is to reduce very gradually the quantity taken, and, as the opium is withdrawn, to supply its place with some agent which will sustain the system and control those terrible sensations and untoward symptoms until recuperation takes place, the process of nutrition is reëstablished, and the system is able to stand alone, when both opium and its substitute can be finally withdrawn.

Before treatment is begun, it is necessary to inquire into the patient's idiosyncrasies as well as to ascertain whether he is the subject of any organic disease, which, though held in abeyance by the opium, is sure to become active when that agent is withdrawn. Inquiry must also be made as to the existence of hereditary predisposition to insanity or other serious neuropathic disorders, and lastly, in the case of females, assurance must be had that the patient is not pregnant. Abortion would be sure to take place, accompanied by alarming hemorrhage, requiring most prompt and active measures to avert a fatal issue.

For the purpose of supplying the place of opium in the manner indicated, various agents have been used. None seems to answer the purpose so well as large doses of quinine, recommended by Dr. Hughes, of St. Louis, or the best English solid extract of cannabis indica, so strongly advocated by Dr. Hubbard, of New York. During the course of treatment, other therapeutic agents are required. Valerianates and chloral will be found useful to induce sleep; compound tincture of cinchona and coca leaves are of service in depressed conditions. Hot salt-water baths can hardly be dispensed with, their power of soothing and allaying nervous irritability, equalizing the circulation, and inducing sleep, making them one of the most valuable remedies at our command. To relieve constipation, a good deal of fruit should enter into the diet. If this fail, copious enemata of castor oil and hot water will be required. During the crisis which follows the last infinitesimal dose of opium, ten-drop doses of the dilute phosphoric acid exert a wonderful influence; it cannot, however, be continued beyond five or six doses, as its tendency to irritate the stomach prohibits its further exhibition. Musk, lime-water, mustard, friction, and electricity are useful in assisting to tide the patient over the crisis, a period which lasts but twelve hours, after which all necessity or desire for opium is gone, and the danger of returning to the drug is past.

DR. R. P. HOWARD, of Montreal, read a paper on

SOME VARIETIES OF DYSPNŒA IN BRIGHT'S DISEASE,

in which the following conclusions were presented:

1. That marked dyspnœa may occur in Bright's disease, not due to gross lesions in heart, lungs, or pleura.
2. That it may be (*a*) a continuous dyspnœa, or (*b*) paroxysmal in character, resembling spasmodic asthma; and (*c*) that these types may occur in the same case, but the continued variety is more frequent than the asthmatic.
3. That these forms of dyspnœa may occur as the prominent symptom of renal disease, and their origin may escape recognition if the urine be not carefully examined.
4. That the Cheyne-Stokes' respiration is often a symptom of Bright's disease, and that it obtains in both the acute parenchymatous and in the chronic interstitial nephritis.
5. That while the Cheyne-Stokes' breathing is usually an evidence that the fatal issue is near at hand, it may occur in a chronic form, and may recur for weeks, and, perhaps, even for years.
6. That these several forms of dyspnœa are due to that defective renal elimination called uræmia.
7. That in the acute form of Bright's disease serious or fatal dyspnœa may sometimes occur in connection with effusion into the submucous membrane of the larynx—so-called œdema glottidis.

DR. GEORGE ROSS showed some

SPECIMENS OF THORACIC ANEURISM,

to call the attention of the Section to a valuable physical sign in some cases of aortic aneurism, viz., tugging at the trachea when the larynx is elevated. In the first case the sign was present in a typical manner, and the sac of the aneurism, as the specimen showed, pressed directly upon the bifurcation of the trachea. In the second case the sign was absent, and the sac was found projecting from the lower and lateral part of the arch, and not compressing to any extent the trachea, but extending into the lung and pleura.

HEART MURMUR HEARD IN THE MOUTH.

DR. GURD exhibited the patient, in whose mouth, on auscultation, a distinct systolic murmur could be heard, transmitted apparently from the chest.

Dr. Worthington, of Clinton, Ont., reported some cases of *Diabetes Insipidus, One with Exophthalmic Goitre.*

Dr. William Gardner, of Montreal, read a paper on *Common Errors in Gynecological Practice.*

Dr. Brown, of Acton Vale, Quebec, read a paper *On Impaction of the Pregnant Uterus in the Pelvis as a Cause of Abortion.*

Dr. Playter, of Ottawa, read a paper *On the Relations of the Medical Profession to the Public.*

TUESDAY, AUGUST 26TH—SECOND DAY.

GENERAL SESSION.

After the transaction of general business, **MR. LAWSON TAIT**, of Birmingham, delivered an address on

ABDOMINAL SURGERY.

(See THE MEDICAL NEWS of Sept. 6th, p. 253.)

It was discussed by Dr. MacMillan, of Hull, England; Drs. Hingston, Roddick, Fulton, and others.

A vote of thanks was tendered to Mr. Tait for his interesting address.

BANQUET.

In the evening the Association was entertained at the Windsor Hotel by the profession of Montreal. About two hundred guests sat down to the banquet.

SURGICAL SECTION.

This Section met at 3.30 P.M. The first paper read was by **DR. MAJOR**, of Montreal, on

BUCCAL BREATHING, ITS CAUSES, ETC.

Dr. Major took up in detail the causes of the pernicious habit of buccal breathing, the dangers with which this habit is fraught, and dealt fully with the treatment of each separate condition giving rise to it.

In the discussion which followed, Drs. Elsberg and Reeve took part.

DR. PROUDFOOT, of Montreal, then read a paper on

PARACENTESIS OF THE MEMBRANA TYMPANI,

calling especial attention to its value as an operation for cutting short attacks of inflammation of the middle ear.

DR. OLDRIGHT, of Toronto, then read a short paper on

MYXO-SARCOMA,

being the sequel of a paper read last year. Upon first removal the tumor was distinctly of the fibro-myxomatous variety. The tumor recurred, was removed a second time, and found to be a myxo-sarcoma.

DR. SHEPHERD, of Montreal, read a paper upon an

OBSCURE CASE OF FEMORO-POPLITEAL ANEURISM.

W. H., æt. 46, was admitted into hospital on the 31st of December, 1883, with a tumor on the lower and back part of right thigh. Had never had syphilis or rheumatism, but had been intemperate. Gave a history of having been treated in 1875 for double popliteal aneurism, which were cured. Two years afterwards a small hard lump appeared on the site of the present tumor; this had been slowly and steadily increasing, and upon admission was the size of a man's head.

It extended upwards from the popliteal space of the right thigh. It was smooth, large, and inelastic; gave rise to no pain, and there was neither pulse nor bruit to be detected. He could neither flex nor straighten the leg perfectly. The case was watched for several weeks, and he then began to complain of pain above and below the tumor. Fever followed. The tumor was slowly increasing in size, and Dr. Shepherd thought it must be a sarcoma of the parts about the bone or in the seat of the old aneurism. Ultimately amputation was performed on the 21st of February, 1884, by the circular method, through the lower third of the thigh, the stump being dressed with borated gauze and iodoform. The flaps united readily. Upon examining the tumor microscopically, it was found to consist of a mass of fibrin, but not arranged in concentric layers. The femoral artery ends above the tumor in a blind sac. Upon slitting up the popliteal it was found that the capsule of the tumor was continuous with the external coat of the artery, and thus the blood got into the tumor from below. It is difficult to explain the manner of growth of such a tumor, but Dr. Shepherd thinks the mass was in a spongy condition, so that the blood could easily permeate, and the fibrin could be slowly deposited. Dr. Shepherd then referred to the difficulty of diagnosis in such cases, no positive sign giving evidence of aneurism, and rendering it very difficult to distinguish between the non-pulsatile slowly growing aneurism and the malignant growth. Even had a diagnosis been made in this case, Dr. Shepherd thinks no other mode of treatment would have been available. To the naked eye this tumor has the appearance of a neoplasm, for the fibrin is regularly solidified throughout. There was no cavity in the tumor.

DR. GARDNER, of Montreal, reported several

CASES OF UTERINE MYOMA.

Case I.—A lady, the mother of four children, the last of which was born six years ago. The lady herself was hysterical and nervous in character, and gave a history of severe hemorrhages, nausea, and vomiting. When seen she was exceedingly blanched and much emaciated. Upon examination the uterus was found enlarged, and the sound could be passed to a depth of four inches. A tumor was detected and made out to be of the submucous variety. At the time of operation the cervix was divided deeply on both sides. the tumor was drawn down and held by the volsellum, and then removed by the serrated uterine scoop of Thomas, of New York. The after-treatment consisted of injections of hot water and the application of iodoform. On the fourth day after the operation a rigor occurred, and the temperature rose to 105°; this was controlled, however, by quinine, and after a pretty smart attack of blood-poisoning, the temperature become normal and progress toward recovery was uninterrupted. The tumor itself was about the size of a cricket-ball, very dense, and belonged to the class of true fibroids.

Case II.—A widow, aged forty-two, the mother of several children, the last having been born four years ago. The mother has never been strong since her last confinement, and when seen was very anæmic, and gave a history of unceasing menorrhagia, with nausea and vomiting. The cervix was dilated for purposes of examination, and a globular enlargement was seen. Dilatation of the cervix in such cases often arrests the hemorrhage; it did so in this case for a period of forty days, but the hemorrhage recurred, and the tumor was removed as in the first case, except that drainage was secured by a double rubber tube introduced into the cervix, the ends of which hung out of the vagina. Recovery here was uneventful. The tumor in this case was less dense than the former one, smaller, and more easily removed.

Case III.—That of a lady, aged thirty-nine, the mother of several children. She also had suffered from very profuse menstruation. In this case the tumor was detected before her last pregnancy; nothing was done at that time; she became pregnant, aborted at the eighth month, and expelled a curiously flattened and macerated fœtus. After expulsion of the placenta terrific after-pains set in, which continued for a week, and were controlled with difficulty. At the next menstrual period the pains returned, and upon examination the tumor was detected. The tumor was removed as in the previous cases, but, as it was fully the size of a cocoanut, difficulty was experienced in diagnosticating whether it was differentiated from the uterine wall. This element of difficulty in diagnosis must always prove formidable in such cases. Since the removal of the tumor, the patient has menstruated easily and normally.

Case IV.—In this case the tumor occurred in a woman, aged fifty-two, who had had ten pregnancies, six of them having ended in abortion. She gave a history of having suffered for the past five years from exhausting hemorrhages. Upon examination the os was found dilated and protruding through it was seen the growth. The tumor in this case lay altogether in the cavity of the cervix which it had dilated, the cavity of the uterus being but little affected.

DR. STRANGE, of Toronto, complimented Dr. Gardner upon his paper, and upon the success therein detailed. In his own cases he has never incised the cervix, preferring slow but gradual dilatation. He believes thoroughly in the free irrigation of the uterus after such operations, in order to wash away the débris, and keep the parts both sweet and clean.

DR. HEYWOOD SMITH, of London, England, while congratulating Dr. Gardner upon his success, did not think such method of enucleation available or proper in all cases. He thought that in nulliparous females it would be wholly impracticable, owing to the small size of the virgin vagina; and that if incisions be made in the cervix, we should permit them to heal before proceeding to operation, for fear of septic infection. We should always suspect such tumors, when women come to us about the time of the menopause with a history of frequent and painful menstruation.

WEDNESDAY, AUGUST 27TH—THIRD DAY.

GENERAL SESSION.

The Report of the Nominating Committee was read, and the following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. William Osler, of Montreal.
General Secretary.—Dr. James Stewart, of Montreal.
Treasurer.—Dr. Charles Sheard, of Toronto.
The next place of meeting.—Winnipeg, Manitoba.

DR. F. BULLER, of Montreal, then read a paper on

JEQUIRITY IN GRANULAR OPHTHALMIA.

He had used jequirity in about twenty-five cases of granular ophthalmia with pannus, in the Montreal General Hospital, during the past year, usually in both eyes, upwards of forty eyes having been submitted to this mode of treatment, the results being, on the whole, very satisfactory. For the most part, only cases of old standing, which had resisted the ordinary modes of treatment, were selected. This is probably the reason why the records show a large proportion of successful results. The solution commonly employed was made by macerating three parts, by weight, of the powdered decorticated bean in one hundred parts, by weight, of cold water. The solution was then filtered and used for each patient, in a fresh state. Wide difference in the individual susceptibility of different eyes was a very noticeable feature. In some instances, especially when there was extensive cicatricial degeneration of the conjunctiva, it was found impossible to establish the characteristic effects of the drug, *i. e.*, acute membranous ophthalmia, notwithstanding that stronger solutions were then used, sometimes as much as five or ten per cent. In ordinary cases one application of a three per cent. solution was sufficient to set up the requisite inflammatory action. Repeated applications were found to maintain a high degree of inflammation for an indefinite period, but the inflammatory process always subsided with remarkable rapidity after omitting the applications. Unquestionably, the integrity of the cornea may be jeopardized by keeping up the inflammatory process for too long a period; and, keeping this fact in view, prudence will dictate caution in using the remedy more frequently than suffices to set up the membranous ophthalmia which may be expected to ensue after one application. Repeated applications will often be required, and in this the judgment and experience of the surgeon will be the best guide.

In some very advanced cases of conjunctival degeneration (cicatricial degeneration and atrophy), in which it was found impossible to set up a membranous ophthalmia; the very moderate inflammatory reaction induced by repeated applications of the stronger solutions, was followed by a gradual and more or less complete removal of existing pannus and great improvement in vision.

The solution of jequirity is found to act best when perfectly fresh. At the end of twenty-four hours the solution is found to contain quantities of a rod-like bacillus. Stale solutions are not only more uncertain in their action, but are apt to cause eczema of the skin of the face. The solution is usually applied to the everted lids with a swab of absorbent cotten; it causes no immediate irritation, but in from three to eighteen hours the eye becomes somewhat injected, with a feeling of heat and discomfort, and there is more or less lachrymation; later the eyelids become swollen, reddened, firm to the touch, and tender; then the conjunctiva is also swollen, and presents the croupous exudation. There is a watery and flocculent, seldom purulent, secretion. The inflammatory process is much more like a diphtheritic than a purulent ophthalmia. Sometimes vast masses of false membrane are produced; absorption of trachoma granulations, and clearing of the cornea is all the more certain under such circumstances.

He was not prepared to accept the theory that the action of jequirity depends upon the development of microörganisms in the solution, for various reasons, among which may be mentioned: 1. The solution is most active when entirely free from bacteria. 2. Stale solutions filled with microörganisms are less active, and before long become inert. 3. He has not found bacteria in the solution four hours after it had been prepared for use; at this time it would already have commenced to excite inflammation if used immediately after filtration. 4. It is difficult, and often impossible to discover the supposed jequirity bacteria in the inflammatory products. 5. Jequirity ophthalmia is not contagious in the sense of producing a similar inflammation.

The best results were obtained in cases of inveterate trachoma with pannus. It does not act well when the conjunctiva is succulent and swollen, with considerable hypersecretion. It should not be used in the presence of acute inflammatory conditions of the conjunctiva or cornea. To insure safety, twenty-four hours should be allowed to elapse before making a second application. It should not then be repeated if a sharp reaction has already occurred. A partial cure may sometimes be completed by a repetition of the remedy two or three weeks later, and sometimes by the use of oxide of mercury ointment.

Dr. William Osler, of Montreal, then read a paper

ON PNEUMONIA AS AN INFECTIOUS DISEASE.

The following points were briefly referred to: (1) The existence of a considerable body of evidence to show that pneumonia occurred sometimes in epidemic form and that it *infected* certain localities, *i. e.*, houses and barracks. (2) The presence of the micrococci in the exudation, which had been abundantly proved. It is very doubtful if the coccus with a capsule, described by Friedländer, is peculiar to the disease. (3) The micrococci can be readily cultivated, and when inoculated in mice and guinea-pigs they die within a variable period, but whether the affection produced is a genuine pneumonia or only septicæmia, is not yet satisfactorily settled.

NEWS ITEMS.

Successful Inoculation of the Cholera Bacillus in the Lower Animals.—Dr. Bossano, of the Pharo Hospital, at Marseilles, telegraphed on September 9th that Drs. Reitsch and Ricati had just informed him that several animals which they had inoculated with Dr. Koch's microbes had died with choleraic symptoms—results which Dr. Koch had failed to obtain.

The Cartwright Prize of the Alumni Association of the College of Physicians and Surgeons, New York.—An award of this prize, which amounts to $500, will be made at Commencement, 1885, and essays in competition must be forwarded to the Prize Committee, of which Dr. Amidon, No. 18 West Twenty-first St., New York, is Chairman, before April 1, 1885. This prize is open to the competition of alumni of *any* medical college, and will be awarded to the best medical essay upon any subject the writer may select. Competing essays must be marked with a device and accompanied by a sealed envelope similarly marked, containing the name and address of the author.

Bad Plumbing in Bellevue Hospital, New York.—The Board of Health three months ago was requested to examine the plumbing in Bellevue Hospital, a death there having been attributed to sewer gas poisoning. The engineer, on June 23d, reported that sewer gas escaped into the rooms occupied by nurses and physicians. He recommended that the waste pipes leading from those rooms should be ventilated and trapped. This week the Board received another report from him stating that he made another inspection on August 12th, and found that the sewer gas still escaped. No steps had been taken to improve the plumbing, although a proper notice had been sent to the Commissioners of Charities and Correction. It was said that the Commissioners could not make the needed repairs on account of lack of funds for such purposes.

The Mississippi Valley Medical Society will hold its tenth annual meeting at Springfield, Illinois, on Tuesday, September 23d, and the three following days.

Prof. Braun, of Heidelberg, has been called to the Chair of Surgery in the University of Jena.

Prof. Hermann, of Zurich, will take the Chair of Physiology at Königsberg, rendered vacant by the resignation of Prof. von Wittich.

Prof. L. Mauthner is mentioned as the probable successor to the late Prof. Jäger as Professor of Ophthalmology in Vienna.

Microbe.—The word "microbe," now so commonly used, was coined by M. Charles Sédillot, of Strasbourg, in February, 1878, in a paper which he read on the application of M. Pasteur's discoveries to surgery. Coming from the Greek words μικρος, small, and βιος life, it aptly describes the thing intended. In replying to M. Sédillot, M. Pasteur used the word twice, and scientific men have since generally adopted it.

New Medical Journal.—The first number of the *Internationales Centralblatt für Laryngologie, Rhinologie, and verwandten Wissenschaften*, has recently appeared. It is a monthly, containing a *résumé* of all the articles, brochures, or books on diseases of the larynx, nose, and allied organs. The American collaborateur is Dr. George M. Lefferts, of New York. It is published by Hirschwald, of Berlin.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 9 TO SEPTEMBER 15, 1884.

Greenleaf, Charles R., *Major and Surgeon.*—To conduct a detachment of recruits to the Department of the Columbia, and upon completion of this duty rejoin his station, Columbus Barracks, Ohio.—*S. O. 210, A. G. O.*, September 6, 1884.

Gorgas, W. C., *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Fort Randall, Dakota Territory.—*S. O. 98, Department of Dakota*, September 5, 1884.

Macauley, C. N. B., *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Fort Sisseton, Dakota Territory.—*S. O. 99, Department of Dakota*, September 6, 1884.

Egan, P. R., *First Lieutenant and Assistant Surgeon.*—When relieved by Assistant Surgeon Fisher, to report at Fort Lowell, Arizona Territory, for duty as Post Surgeon.—*S. O. 82, Department of Arizona*, September 2, 1884.

Fisher, W. W. R,, *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Fort Apache, Arizona Territory, relieving Assistant Surgeon Egan.—*S. O. 82, C. S., Department of Arizona.*

Ewing, Charles B., *First Lieutenant and Assistant Surgeon.*—Assigned to duty, as Post Surgeon, at Fort Stanton, New Mexico.—*S. O. 177, Department of the Missouri*, September 6, 1884.

McCaw, W. D., *First Lieutenant and Assistant Surgeon.*—(Recently appointed.) To report in person to the Commanding General, Department of the Missouri, for assignment to duty.—*S. O. 209, A. G. O.*, September 5, 1884.

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ORIGINAL LECTURES.

ABDOMINAL SECTION IN DISEASE OF THE UTERUS, OR OF THE UTERINE APPENDAGES.

A Lecture delivered, by invitation, at the Jefferson Medical College Hospital, September 15, 1884.

By LAWSON TAIT, F.R.C.S.,

SURGEON TO THE BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN, BIRMINGHAM, ENGLAND.

Gentlemen: I really do not know what Dr. Parvin has brought me here for, unless it be that there is a tendency in your country, to a much greater extent than in my own, to overwhelm your visitors with kindness of every description. I have been constantly told since my arrival in this country, that I have come to the country of big things. I certainly believe that I am now in the city of biggest things in the country of big things. I have to-day seen the biggest store, and have eaten the biggest oyster that I have ever seen. I am told that this is the biggest medical amphitheatre in the world, and it certainly is larger than any in England. Now I am asked to do the biggest thing of all, to talk about patients whom I never saw until this afternoon and then only for a few minutes. This is a very big thing, and I am afraid that I shall fail in the attempt. If I should make mistakes in diagnosis, please understand that it is because I have caught the American disease of hurrying through everything at a rate which none but an American can keep up.

You very well know, I am sure, that one of the most obscure things that a man can attempt in the shape of diagnosis, is the diagnosis of disease inside of the belly. An illustration which I frequently use with my patients is this. I say to them: "This is a table. There is a cover on it. I can tell you that it is a table, but until the cover is removed, I cannot say of what kind of wood the table is made." The man who ventures on accurate diagnosis in abdominal disease is just the man to get into trouble. There is no region of the body where diagnosis requires more caution than in that of the abdomen. One reason of this is that any mistake will almost certainly be discovered. As a distinguished American surgeon said to me a short time ago, we are not so well off as the physician. He hammers on the chest, finds certain abnormal sounds and says that such a condition is present. He may be mistaken, but the patient probably moves away and the error in diagnosis is never discovered, but in abdominal surgery, the surgeon after giving his opinion usually at once proceeds to the operation, and any mistake is almost certain to be discovered.

A series of patients are coming in, and my friend, Dr. Parvin, has asked me to make some remarks on them.

OVARIAN TUMOR.

Here is a patient who, as far as I can see, is the victim of a disease which is very common with us, and I suppose as common with you. At first sight, it looks like an ovarian tumor. The first thing which attracts my attention is a scar from a puncture, and here I see the remains of another puncture of an older date. I next notice the uniform shape of this abdomen. There is a symmetrical uniformity about this abdomen which is suspicious. When you see a perfectly uniform enlargement of the abdomen, begin by suspecting that it is not due to an ovarian tumor. The chances in such a case are greatly in favor of one of three things. In the first place, pregnancy, which you must always eliminate; in the second place, a small tumor with malignant growth and ascitic effusion, which is the most likely of the three; and, in the third place, the presence of a parovarian tumor.

I next place my hand on the tumor,—and here let me give a caution. When you are dealing with abdominal disease either for the purpose of diagnosis or treatment, you cannot be too gentle in your manipulations. If at all rough in your manipulations, the first thing you do is to frighten the patient and obscure the diagnosis. The abdominal muscles will be contracted, and you will not be able to learn a great many things which it is desirable that you should learn. If in treating abdominal disease you handle the parts roughly, you run a risk of doing harm. I touch the abdomen gently, and I have already learned a good many things. I learn, in the first place, that this certainly is not pregnancy, although I knew that before. I learn, in the second place, that it is not a parovarian tumor. I learn, in the third place, that it is probably a small tumor with a large amount of ascitic effusion.

I feel in the lower part of the abdomen a semi-solid mass, and above this a mass which is not solid. Our business is to determine what relation the mass not solid bears to the mass which is solid. Above, we obtain on percussion the resonance of the intestine. There is a matter here which obscures the diagnosis. That is the fact that she has been tapped. I get an intestinal note above, and there is evident fluctuation, but from these two factors I cannot positively determine which one of two conditions is present, and it is a rather important thing to know which we have before giving advice.

The two conditions to which I refer are the following: This may be a large cyst which has been emptied by tapping, or it may be merely ascitic fluid. If it is a large cyst which has been partially emptied, or which, having been emptied, has become partially refilled, it is a case of multicystic cystoma, which can be dealt with in a satisfactory manner. In the second place, it may be a small cyst covered with a large effusion of ascitic fluid. If this be the case, it will be necessary to engage in the discussion of a number of points before making up our mind.

I have looked at the patient's face but I find nothing there to guide me. I have examined the pelvis, but I find there nothing but negative indications. The uterus is small and tolerably free. On the left side there is a small tumor which may be one of two things, either the left ovary in a state of incipient enlargement, or a small mass of papilloma. This may be a single ovarian tumor and the condition here may be the result of malignant proliferation on the outside of the tumor, or on the parietal peritoneum, or the peritoneal coat of the viscera. It is important to know which of these two is the more likely. With a half-full abdomen like this, one cannot pretend to give an opinion. The fluid has been removed and reaccumulation is taking place. Although it is impossible to give a positive opinion, I have a suspicion that the fluid which was removed was not removed from a cyst. There is a small tumor in the lower part of the abdomen, and I think that the fluid which was removed was ascitic and that there is here a condition of papilloma.

Suppose it is impossible to come to an exact conclusion, what ought to be done? Open the abdomen in either case; for, unless you are absolutely certain that the disease is incurable, it is, in my judgment, a surgical crime to allow a patient to go to the grave with an abdominal tumor, without an effort being made to save her. This should be done even when papilloma, which is a most unfavorable condition, is suspected. (The patient was now removed.)

For reasons which are obvious, it is better to speak in the absence of the patient. I do not know who is responsible for the tapping in this case, and it does not much matter, for the practice of tapping is still largely carried out in my own country, and I presume the same is the case in this country. Therefore I never very much blame a man for tapping in these cases. My opinion, which coincides with that of most operators, is that a woman with abdominal disease, unless the affection is clearly malignant, should not be tapped. This rule should be adopted for many reasons, to some of which I shall refer. In the first place, speaking from my own experience in the removal of ovarian tumors, I can say this: that for a number of years (five or six) I have not lost a case of ovariotomy which had not previously been tapped. It is perfectly certain that tapping increases the risks of ovariotomy to a much larger extent than anything else. There is no kind of adhesion, there is no kind of complication, there is no kind or size of pedicle, which makes any difference. The worst cases recover as well as the simplest, provided they have not been tapped. I cannot tell why this is, although I suspect that there is a chemical reason for it. The chemical analysis of the contents of ovarian tumors has been abundantly discussed, but as yet no satisfactory results have been obtained; but it has been found that the materials removed from the interior of ovarian cystomata are extremely rich in some mysterious forms of albumen. I have carefully examined the fluid contents of these tumors by various elaborate methods, and I am of the opinion that the albuminous elements of no two ovarian tumors are exactly alike. If this peculiar albuminoid substance is removed to a large extent, the blood is deprived of something which renders the other ingredients more coagulable. The patients who have died after ovariotomy, and who have been previously tapped, have died from the formation of a clot starting in the pedicle and reaching to the cavities of the heart. In this fact we have one indication that tapping should not be performed except under exceptionable circumstances. The certainty with which ovarian tumors come under notice at an early stage, and the ease with which the diagnosis is usually made, render it important that the rule that tapping should not be performed should be recognized. It is the duty of every practitioner of medicine, when he sees a case which he suspects to be one of ovarian tumor, either at once to proceed to its removal, or at once to place the patient under the care of some one who will do justice to the patient and to the art of surgery which he represents. I say that as soon as an ovarian tumor is recognized, you should refrain altogether from tapping, and immediately remove the tumor.

The patient whom we have had before us has been tapped. I do not know whether the fluid removed was ascitic or from a large cyst. My suspicion is, as I have already said, that the fluid was ascitic. Among other things which lead to this opinion is the position of the punctures, which is above the point at which tapping of an ovarian tumor usually takes place. The surgeon who tapped this woman no doubt felt this solid mass at the bottom of the abdomen, and probably felt more certain of obtaining fluid at the points where the punctures were made than lower down. This is presuming that you elect to tap at the same point that we do, *i. e.*, midway between the umbilicus and the pubes.

At this point some critics might ask "What do you make of those cases in which tapping was done over and over under the old practice, and sometimes under the new, for some patients will not submit to the radical operation?" In regard to the latter point, there is no difficulty with that now. During the last five or six years I have not had a patient come to me with an ovarian tumor, who has refused to have it removed. I can assure her that the chances are 98 out of 100 that she will get well, no matter what the age, no matter what the appearance of the tumor, and no matter what complication may be present, provided it is not malignant disease and that there has been no previous tapping. What became of those cases which were tapped so often? Recently I discovered on a tombstone in the south of England, an inscription stating that the person buried there had been tapped for ovarian dropsy forty-seven times. That is the largest number of tappings that I know of, and of course, being on a tombstone, the statement is certainly true. My answer to the question proposed is that these were not cases of ovarian tumor. They were tumors of the parovarium. The facts concerning these apparent exceptions, are really in favor of the view which I have expressed in regard to the tapping of ovarian tumors. The contents of pariovarian tumors contain little or no albumen. These cysts are generally filled with a limpid fluid consisting of simple water with a few salts. Sixty or seventy per cent. of the parovarian tumors which I have examined have contained no albumen. If you get hold of a large cyst secreting a non-albuminous fluid, and remove that fluid repeatedly, the removal of the fluid will not drain the system much, for it is an easy matter to replace water with a small proportion of salts. This apparent exception therefore proves to be an argument in favor of the view which the writings of Dr. Bantock and myself have been largely instrumental in bringing before the profession that tapping is not to be allowed.

Suppose you get an ovarian tumor, when should it be removed? The arguments are all in favor of early operation. The patient is not distressed with the suffering entailed by carrying around a large mass; she is not subjected to the likelihood of the development of the condition of papilloma which we suspect in this case; she is not subjected to the anxiety and worry, especially if unmarried, which her appearance will always cause, and the incision will be shorter than when the abdomen is large. The mortality of early operations is almost *nil*. If the tumor is removed before adhesions form or other complications occur, I believe that the mortality would be absolutely *nil*. My own experience leads me to believe that if the practice were uniform all over the world of removing ovarian tumors as soon as discovered, the mortality would not be one per cent. This is a matter on which, even in England, there is a good deal of difference of opinion. When you find an opinion expressed adverse to the one which I have just stated, you will find that it is expressed by one whose hair is white. I do not mean by this to say that young men are always right, or to imply that old men are often wrong. We have a saying in England that "young men think old men to be fools, but old men know that young men are fools," but a qualification of this exists in the fact that the world moves on, and as one generation succeeds another, the wisdom of those who have gone before is added to by those who are now at work.

I shall not now enter into the various steps of the operation, and indeed without a display of the procedure it would be almost a waste of time to do so.

Suppose that we were certain that this patient was suffering from papilloma, that the disease of which we are so much afraid was developing around the tumor; even if I were certain that such was the case, and I were responsible for the treatment of this patient, I should proceed to the removal of the tumor. The reason for that is a very curious one, and one which I cannot pretend to explain, but of the facts of which I am quite certain. I cannot say, without referring to my case-books, how many ovarian tumors I have removed, but in a considerable percentage both of parovarian and ovarian tumors, and also of cases of myoma, and also in cases where there has been no tumor at all, I have opened the abdomen, sometimes knowing what I should find and at other times not knowing, and I have found this curious velvety, warty condition of the peritoneum. One of the most extraordinary cases which I have ever met with, was one sent to me by Mr. Oliver Pemberton, of Birmingham, whose name is probably familiar to many of you. In this case there was great enlargement of the abdomen, supposed by several who had examined her to be a parovarian tumor. As soon as I placed my hands upon the abdomen, I was certain that there was no tumor, but simply an enormous effusion of ascitic fluid. In such cases as this I never tap, I always make an opening in the abdominal wall large enough to admit the introduction of two fingers, and thus obtain an intelligent idea of the condition of the abdomen, which cannot be obtained by gazing at the fluid falling from the end of a canula. There is no more danger in this than in tapping. So far as my own practice is concerned, tapping is absolutely discarded. In the case to which I have referred, I made the abdominal opening, and slipped in two fingers, and at once found that I had to deal with universal papilloma of the peritoneum. I inserted a drainage-tube, and allowed it to remain two or three weeks, and completely cured the patient. She is now in robust health some four years after the operation. In another case, in a woman fifty-seven years of age, I removed a large ovarian tumor. Large masses of papilloma were also found. Two of these, each being larger than the fist, could not be removed, and after the operation could be distinctly felt through the abdominal wall. She is now sixty-five years old, in good health, and the tumors have disappeared.

It is certain that there are two kinds of papilloma, one of which is malignant, and which will kill the patient in a few weeks or months, and another kind which is not malignant, and which can be cured by removing the tumor or by opening and draining the cavity. I have submitted pieces of papilloma, some of which were obtained from cases which had been cured, while others had come from cases rapidly fatal, to the most experienced microscopists, and they have been unable to detect any difference between the two varieties. This curious condition, presenting as it does such extremely different features, so far as results are concerned, offers a very favorable field for careful research by pathologists. In this case, even if I knew positively that there was present an ovarian tumor complicated with ascitic fluid and large papilloma, I should still urge that if it is possible to remove the tumor, it should be done, for there is a chance that the patient will be cured.

I just now used the expression "if it is possible to remove the tumor," and that reminds me that I want to speak of one other matter in this connection. When you make an exploratory incision, you must carefully consider what you are going to do. You must prospect (I believe that is the word you use in this country) very carefully. You must not begin the operation for the removal of an abdominal tumor unless you are going to finish it. The most deadly things are operations which are half done. If a part of the mass is removed, and it is then found impossible to complete the operation, the chances are seventy out of a hundred that the patient will die. After I start an operation, I finish it, if it is in the power of a human being to do so; and this, I believe, is the point where experience tells in this special kind of work. Do not begin unless you are confident that you can complete the operation. If you have the courage of your convictions, and the experience necessary to do a difficult piece of work, go ahead and finish it. The chances of recovery will be infinitely greater than if you leave the thing half done.

REMOVAL OF THE UTERINE APPENDAGES.

The next case is one which would involve a great deal of talking, and one of which I cannot speak anything like exactly, for that would involve an intimate knowledge of the past history of the patient. For the purposes of instruction, however, I may assume what is doubtless the fact, that in this girl the sufferings are real and intense, and that everything short of surgical interference has been employed. I might with advantage talk of a case which I treated in the State of New York, in which the condition was to some extent similar to that of the present case, and in which the history was more completely known. For that matter, a supposititious case might be discussed, for it would be easy to introduce into it those questions which are worthy of notice. This is all the more advisable because we have the tracks very well cleared in abdominal surgery on almost all points which are under discussion with the exception of one. The patient who has just been admitted to me comes under that category.

She is twenty-one years of age and has a pronounced crop of acne all over her face. When a woman enters my consulting-room, and I see acne, I always ask if she has been taking bromide of potassium. This is the fashionable drug for every conceivable uterine ailment, and yet I have never heard of any one who was willing to swear that he had ever cured anything with bromide of potassium which was worth curing. Still it is the one pump-handle which we have, and we work it pretty hard. When a woman comes to me with a yellowish-purplish face, covered with acne, I always ask if she has been taking bromide, and as a rule she says that she has taken large quantities of it; and, looking over her prescriptions, I find that she has been taking bromide of potassium, bromide of sodium, bromide of ammonium, and the last one I have heard of is bromide of nickel. These women wander from one physician to another. She, after a time, falls into the hands of one who puts in a pessary—for what, goodness knows. I saw a lady not many years ago from whom I removed both Fallopian tubes filled with pus, which had been there clearly from a miscarriage which she had had many years previously. Among other ways, she had been treated largely with pessaries. She had a large tray filled with pessaries, which she kept as a sort of curiosity. She had each pessary labelled; and she would pick up one and say, "This was given to me by Dr. A. It hurt me a good deal, but I bore it for some months." Taking up another, "This I got from Dr. B. It hurt me so much that I could not wear it long." Taking up a third, "Well, I believe that this one must have been invented by the devil himself. I could not wear it at all." These patients wander about from one specialist to another, getting from each one his pet pessary. Finally they go to a surgeon, who dilates the cervix with some contrivance, or he will divide the cervix in one way or another without giving any benefit. Then, after going for a long time from one doctor to another, she at last goes to a surgeon who has a reputation for performing operations. I do not mean to say that all these women who wander from one consulting-room or one hospital to another should be submitted to operation. I have never said this and never carried it out in my practice. What I do say is this, there are a large number of these patients which can be cured only by a surgical operation. Because at the outset of this new kind of work some mistakes are made, we are not therefore to close the doors against suffering women. Given the history of a woman who has wandered about as I have described in a somewhat exaggerated form, but none the less true, who has been subjected to every conceivable method of treatment, and she comes to you, and you are persuaded that her sufferings are real and not imaginary, you are justified, in my opinion, in making a small incision in the front of the abdomen to examine the belly, and to pass the fingers down into the pelvis to see if there is anything wrong there.

The first question is clearly, How do you recognize the fact that the patient's sufferings are real? I cannot answer that question. All that I can say is, that never in my experience have I had a woman submit to the operation without finding sufficient cause to justify it. Of course, I, as all ought to do, place my statement and views, with what I propose to do and the results of the operation, immediate and prospective, clearly before the patient, and, as I say I have never known a woman to submit herself to the operation without finding sufficient cause to justify its being done. You say that this puts the responsibility on the patient. Well, that is what we do in every case. The patient cannot be relieved of all responsibility. A man comes to you with a diseased knee-joint. You lay before him the advantages and disadvantages of excision and of amputation, and then you ask him, "Will you have your limb amputated, or will you run the risks of excision?" There are few cases in which we can relieve the patient of all responsibility, and in these doubtful cases the patient must take a large share of the responsibility. In these cases, I always say: "Let us have a complete consultation with any one, or any number of your previous attendants. I will not take the responsibility of this operation without consultation with some one who is as responsible as I am." Having placed the matter thus before the patient, she must take her share of the responsibility.

It is perfectly impossible to imagine that in these cases there is any ground for the criticism which has been made, that women are having their uterine appendages removed for improper purposes. It would be impossible for this to be done without the matter being discovered. The proposal to remove the uterine appendages in order to prevent pregnancy has been made to me by women, but surely we have some kind of conscience. I do not suppose that because I have obtained a position of some eminence in this kind of work that I have been robbed of the conscience which I once possessed. When I say an operation is to be performed, it is done in a sort of semi-public manner. So far as I know, in English surgery, this charge has never been substantiated—indeed, it is never publicly made, it is only hinted at behind our backs.

Again, we are told that these operations are sometimes done for another kind of immoral purpose, *i.e.*, for the purpose of obtaining the fee which comes at the end of the proceeding. Well, this is rather a dangerous argument to use, because, if it were used against myself, I should at once publish a list of the men who had given bromides, used pessaries, and divided the cervix and ask how about their treatment in regard to the matter of fees. I do not know that they would come off as well as I should.

To return to our patient. This girl is twenty-one years of age; she has to make her own living, and this is a very important matter, indeed. If a woman comes to you whose husband has a large income, or whose friends are wealthy, the case presents altogether a different aspect. To the rich, luxury always contributes largely to the relief of pain. If a woman, whose husband has ten thousand a year, has a chronic inflammation of the ovaries, she will suffer far less than a woman who has to make her living and has the same disease. If a woman comes stating that for one week out of every four she is unable to work, you are bound to perform an operation for her relief. This girl has gone through a long course of treatment. She suffers at her periods, but at other times is tolerably well. The indications for treatment are clear. If a woman tells you that there is one week out of every four that she cannot work, it is clear that the arrest of menstruation will afford relief.

As far as I can judge from the history of this patient, the operation which has been suggested is justifiable. You perform the operation, and what do you find? I have always found disease of the uterus or uterine appendages of some kind. These diseases are far more numerous than many imagine, and it would take a long series of lectures to discuss them thoroughly. On the left side, in this girl, there is a feeling as though there was a mass. I think that, in all probability, it would be found that the ovaries, like the uterus, are infantile in size and probably adherent. Suppose, however, that the appendages turn out to be absolutely healthy: I should still say that the operation was capable of being justified by the history of the case.

Now as regards the consequences of this operation; and these are the immediate, that is to say the risks of the operation, and the future consequences which the operation will involve. Of the immediate risk of the operation, I need not now speak. The future aspects of her life demand a little more attention. In the early days of vaccination, I think about the year 1792, a dean of St. Paul's preached a sermon against vaccination, arguing that vaccination was a terrible thing, because it tended to induce the growth of horns upon the head and cloven hoofs. We have been told that the removal of the uterine appendages induces certain changes, bringing on a masculine appearance, and other changes which are entirely theoretical. This mistake arises from applying to these cases the facts as to the results of emasculation of males and females before the age of puberty. It is perfectly well known from the practice in eastern countries, where the sexual organs are removed before the age of puberty, that such operations do result in the retention in the individual of the youthful conditions. The eunuch on whom the operation is performed before the age of puberty, retains his youthful appearance through life. Of course, this is easily understood, but it is entirely different when the operation is performed after the changes of puberty have taken place. Having performed the operation on a large number of women, I have never seen any alteration at all except that involved in improvement of health. When a woman is worn down with pain, loss of blood, and drugs, and you stop that drain, there is immediately noticed an alteration in the appearance for the better. Such statements as are found in the first edition of Sir Spencer Wells's work, and the still more exaggerated statements contained in the second edition of his work, are entirely without foundation.

What are the results? In the great majority of cases there is an immediate relief from suffering and loss of blood. In some cases the relief does not come immediately; but after a time, in a few cases, relief may not come at all; but this is no argument against the operation, any more than it is against many other operations. Take the operation of cataract. This is not always a success. It is probable that in about ten per cent. of all operations for cataract, suppuration of the globe takes place, and the result may rank as a mortality. In other cases escape of the vitreous or some damage to another structure will result in such chronic inflammatory change as to leave the consequential results of the operation so bad that it may be classed as a complete failure. There is no realm of surgery out of which I could not pick abundant illustrations to show that in no other branch is success any greater, if as great, as in that of which I have spoken. Immediately after the operation the patient suffers from the climacteric; but this is inevitable in the life-history of every woman who lives to the age of fifty-two. I do not think that these women, who go through these troubles early in life, suffer any more, or even as much, as those in whom it comes at the natural time. Some do not suffer much, while others suffer a great deal.

So far we have not had any trouble, except from one thing, and this is a distressing one. It occurs after all sorts of abdominal operations, after exploratory incisions, after the removal of one ovary for cystoma, after the removal of both ovaries for cystoma, and after hysterectomy. I refer to the occurrence of acute melancholia. All the cases of mental alienation that I have seen following these operations are seven in number, and all have taken the direction of this most unfavorable form of insanity—acute melancholia. I cannot say that any one of them is likely to recover. I do not know that this is a necessary result in a certain number of cases. I have performed abdominal section some 960 times, and in this number I have met with 7 cases of acute melancholia. Of course, a good many of these cases died, especially in the earlier years of my practice. We may state that acute melancholia occurs in about one per cent. of those submitted to abdominal section. I do not know that anything like this follows other surgical operations. This is the only after-result of an objectionable character with which I am acquainted.

MYOMA OF THE UTERUS.

The next subject which Dr. Parvin has submitted for consideration is that of myoma of the uterus. There are two patients outside, but I do not think that it is necessary to bring them in, for you cannot see anything, and you cannot feel anything. I have examined the patients in the waiting-room.

One woman is forty-eight years of age, and does not suffer much from hemorrhage or very much in any way. The tumor is hard, shrivelled, and solid, and thus it is placed in the category of cases in which nature has cured the disease. In all probability, nature will not remove the tumor, but nature has so relieved the symptoms and so diminished the size of the tumor by shrinkage that nothing more will be required.

The other patient is forty years of age. She has had only two hemorrhages, and it is very likely that she can be tided over the climacteric without any surgical interference. Usually, we do not operate on women for fibroma after the age of forty-six or forty-seven unless it is perfectly clear that the use of ergot combined with absolute rest is insufficient to tide her over the climacteric. When, however, the disease appears in young women, say from thirty-five to forty, or as I have seen it in a girl of nineteen, an important question comes up for careful discussion, and here again the patient must accept a good deal of responsibility in the answer. If a patient spends one week of every month in bleeding and suffering pain, becoming anæmic, restless, and irritable, unable to look after her affairs, and you cannot relieve the sufferings or arrest the hemorrhage except by operation, then this question must be considered. Is it worth while for that patient to go on suffering for a series of years when by an operation, the mortality of which is only four or five per cent., she could be relieved? On this point different men will express different opinions. If I were the patient, I should have the operation done. Holding that opinion, I advise the patient to have the operation performed.

Concerning myoma of the uterus, we have a number of traditions which are being rapidly destroyed. One tradition is that myoma is not a serious thing. We have been in the habit of finding, at our post-mortem examinations, a large number of myomata which have never given any trouble, but I need not say that the tumors which do not give rise to trouble, are not the ones which trouble us. The tumors which cause trouble are the ones which we see. If a tumor gives rise to hemorrhage and pain, the woman consults a physician, who recognizes its presence.

There is another tradition, that the occurrence of the climacteric arrests the growth of uterine myomata. It is now perfectly clear that a certain class of uterine myoma arrests the progress of the climacteric. Frequently we find women going on for years after the usual time of the climacteric, without any appearance of diminution in the size of the tumor, or in the amount of the hemorrhage. There is a peculiar kind of uterine myoma which causes but little pain or hemorrhage, but which goes on indefinitely increasing in size, and seems to be unaffected by the climacteric.

In uterine myoma, provided the use of ergot and rest does not give relief, one of two procedures may be adopted. The uterine appendages may be removed and menstruation, which seems to be the immediate process by which the growth is encouraged, arrested. It is a fact established beyond discussion, that in the great majority of cases operated on hemorrhage is immediately arrested, and the tumor shrivels up, and may disappear. The removal of the uterine appendages is an operation to be recommended in a certain class of cases.

In some cases in which the disease is not arrested by the removal of the uterine appendages, there is the far more dangerous operation of removal of the entire uterus, or hysterectomy.

I have now come to the end of the category of cases about which Dr. Parvin asked me to speak, and I have occupied more time than is usually allotted to clinical lectures. I am afraid that I may not have made myself perfectly clear, for I have absolutely no experience in teaching. I never gave a clinical lecture in my life until last week, when I addressed an audience similar to this in Albany. It is a misfortune that, in England, those of us engaged entirely in special practice never have any opportunity for teaching. The teaching seems to fall chiefly into the hands of those not busily engaged in practice, while those actively engaged in their profession are removed from all opportunity of teaching. I hope, therefore, that you will attribute any lapses in the sequence of my illustrations, or want of clearness in my narrative, entirely to my lack of experience, and accept my appearance before you, not as that of a British teacher, but purely as that of a British surgeon.

ORIGINAL ARTICLES.

NOTES ON CHLORINE AND ITS COMBINATIONS.

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IT happened recently that I was using chlorine in the form of chloride of lime, and otherwise upon a portion of my premises where such agents are often needed, especially in warm weather. About the same time I was prescribing it in two cases of diphtheria, not in the form of chloride or bichloride of mercury, the latter of which has been in common use with me for ten years or more in diphtheria, but in the form of Labarraque's solution directed as follows:

℞.—Liq. sod. chlorinat,
Spt. vin. rectif., . . . āā ℥j.—M.
S.—Twenty drops every hour in water while awake.

This was the principal though not the only agency, and it acted like a charm. I never used a combination that pleased me more. Almost coincidently I received the June number of the *Sanitarian*, which contained a very interesting article from the pen of Dr. John G. Johnson, of Brooklyn, on "Canned Goods," which presented chlorine in combination, not as a disinfectant or a therapeutical, but as a poisonous agent.

Here was chlorine brought under observation acting efficiently in three different modes, to wit: 1, as a disinfectant and deodorizer; 2, as a valuable therapeutic agent in a most dangerous malady; and, 3, as a dangerous and insidious poison.

Not unnaturally I began to make a mental survey of a medicinal agent whose potentialities, in some form, I have been using almost daily for, certainly, over two score of years. Its profusion in nature is an indication of its great usefulness.

Considered as a disinfectant and deodorizer, all authorities and all practice put it in the front rank. It gained its repute before the term *germicide* came into common use, or, indeed, into any use. Thus, says Pareira: "As a fumigating *agent*, *disinfectant*, and *antiseptic*, chlorine, I believe, stands unrivalled. Halle, in 1785, appears to have been the first person who employed it as a disinfectant; but we are greatly indebted to Guyton-Morveau for the zeal and energy he manifested in his attempts to introduce it into use. For destroying miasmata and putrid odors, it is the most powerful agent known, and is, therefore, well adapted for disinfecting prisons, ships, hospitals, dissecting-rooms and other places the air of which requires purification."

A century, almost complete, confirms the opinion and practice of Halle. According to our modern American authorities, as Wood and Bache, Stillé and Maisch, chlorine is stimulant and disinfectant. According to Bartholow, chlorine gas will arrest putrefaction and decomposition of animal matters: "As a deodorant and disinfectant it may be used to destroy *foul effluvia and disease germs.*" This is the eminent property of all the chlorinated solutions, possibly through the influence of liberated ozone, but certainly with such influence, whatever the *ratio operandi.*

It is thus, therefore, that we have so many antiseptic, disinfectant, and deodorizing preparations of chlorine, regular and proprietary. Our chlorine gas, chlorine waters, chlorides of lime, of soda, of zinc, of lead, etc., or many combined, are so many testimonials to its utility. I have used, and still use, with satisfaction a solution of chloride of lead prepared according to an old formula as follows: Take of nitrate of lead ½ drachm in a pint of boiling water, of chloride of sodium 2 drachms in a bucketful of water, when mixed, a sediment precipitates, and the supernatant liquor is a solution of chloride of lead, which is easy of preparation and efficient in use.

What are disinfectants? Halle never heard of germicides, but he had used them notwithstanding, and now, it seems, the two words are getting to be convertible terms.

Unless there is a great error in the progress of modern pathology, we may reasonably believe that the morbid poison of infectious diseases is commonly associated with the various microörganisms which are ever present in such diseases.

A disinfectant then is otherwise a germicide, and the most efficient disinfectants are the potent germicides, among which chlorine, in some form or combination, stands deservedly first.

The most accurate observers, foreign and American, as *e. g.*, Koch and Sternberg, place corrosive sublimate (mercuric chloride) at the head and front of the germicides. Turpentine, iodine in alcohol, carbolic acid, and creasote, are vastly less efficient agents. Dr. R. F. Weir, of New York, quoting Koch, says: "After applying a number of tests, similar to those employed in connection with a number of so-called antiseptics, we found that simply moistening the anthrax spores with a solution of one part of corrosive sublimate to 5000 of water destroyed them immediately. He then says that the sublimate is the only known disinfectant which succeeds by a single application of a few minims of a solution of sublimate, of one part to 1000, in destroying most resistant microörganisms."

In Dr. Sternberg's instructive paper on the "Germicide Value of Therapeutic Agents,"[1] we find, *inter alia*, the comparative quantities of several as necessary to destroy vitality or to prevent development, of which three may be offered from the most effective:

REAGENT.	Percentage required to destroy vitality.	Percentage capable of preventing development.
Mercuric bichloride, . .	0.005	0.003
Carbolic acid, . . .	0.8	0.02
Alcohol, ...	0.40–.95	0.20–.10

The presentation of these respective powers is suggestive.

It must be conceded that no germicide or disinfectant at present in use is equal to chlorine combined with mercury, or the mercuric chloride; but in the simple gaseous form, as when liberated from chloride of lime, which consists of quicklime to which chlorine adheres, hypophosphite of lime, and chloride of calcium, it is of immense, indeed, of incalculable utility in therapeutic uses.

In passing from the germicide or disinfectant uses of chlorine and its combinations to the therapeutic uses, we are at once struck with its remarkable potencies. As it was used for germicide purposes before the term was known, so it was used for therapeutic purposes upon an erroneous theory, but with not less remedial influence. Thus calomel, a protochloride, was given as a cholagogue, with assured conviction that it acted upon the liver more surely and more effectually than any other medicine. When it was shown by the experiments of Hughes Bennett and others that calomel acted but little, if at all, upon the liver directly, physicians stood aghast, and soon agreed, to a great extent, that they had given the agent under a delusion, and many, better informed as they supposed, abandoned, and even ridiculed its further use. Nevertheless, calomel, cholagogue or no cholagogue, had remarkable therapeutic properties, and its use (not its abuse), in instances beyond number, had given the therapeutic results expected and desired by the practitioner. As it causes free evacuations of bile, it is in that sense, at least, surely cholagogue, but doubtless one of its effective properties is that of being destructive to low organisms. In some recent experiments by Hoppe-Seyler, and Wassilief, it was shown that albumen and blood mingled with calomel could be kept for days without any putrefactive change; that the albumen-digesting ferments of the gastric and pancreatic juices were not impaired by calomel, nor the fat-digesting and amylolytic ferments of the pancreas, but that *it arrested the changes which followed their completion, preventing entirely, for example, the butyric acid fermentation and putrefactive processes.*

Calomel was for a long time used in all chylopoietic or gastro-intestinal maladies with great, even with excessive, confidence; then it was greatly depreciated, and now again it is finding favor with practical men. It has been used in nearly all diseases, and in many with praise and censure about equally distributed. In 1849, while attached to the U. S. Naval Hospital at Norfolk, I saw many cases of Asiatic cholera, all of which were treated with full doses of calomel, and with a remarkably small mortality. Calomel was our prime remedy; all others were but adjuvants. I certainly placed great faith in it; probably too much, for there were other factors of exceeding importance. In a well-ordered naval hospital the patients were all under strict discipline, were never crowded or improperly fed; they were kept rigidly at rest, with all their wants properly attended to, at all hours of the day and night, from the beginning of the attack to complete convalescence. No doubt in crowded or filthy dwellings, or hospitals, or ships, ill-cared for and negligently managed, many cases would have died after taking calomel, or any other, or all the other drugs of the pharmacopœia.

But I state the fact as it occurred; we had between fifty and sixty cases, all treated with calomel, *inter alia*, and the mortality was so small that we had no reason to distrust the treatment. There were but two deaths.

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[1] Amer. Journ. of the Med. Sci., April, 1883.

In quite another search I fell by accident upon an article by Dr. Gayley, in the *Amer. Journ. Med. Sciences* (July, 1850), in which he speaks of having treated thirty-five cases with three deaths only, all under calomel treatment, and he quotes Dr. House, a missionary physician at Bankok, who treated forty-five cases with only two deaths, to all of which he gave calomel in large doses (℈j—℈ij), repeated about once an hour, until three or four, or, in one instance, seven doses were taken. The incredulous may readily say that the patients survived the calomel, but were not cured by it. But it happened that large numbers were dying at Bankok at the same time under other methods of treatment.

Dr. Morehead, in his excellent work on diseases of India, gives the general rate of mortality from cholera as from thirty to thirty-five per cent. in regimental hospitals, fifty to fifty-five per cent. in European general hospitals, and sixty to sixty-five per cent. in civil hospitals in the large towns.

He speaks adversely to calomel treatment, but in his published cases there is no evidence of a lessened mortality when this agent was not in use.

Thus in notes of forty-five cases presented, in twenty-nine fatal, sixteen had no mercury; and in sixteen recoveries, fourteen had mercury, generally calomel, although in some instances it was in the form of blue mass, and in others *mercury and chalk* is noted.

The author's objection to calomel is that it is an irritant to the gastro-enteric mucous membranes, but surely it is less so than many agents freely used, as aromatic spirit of ammonia, turpentine, brandy, wine, etc.

Certainly, calomel or no calomel in epidemic cholera is still open to consideration. It may become before a great while a practical rather than a theoretic question. Probably enough its effective agency is that of a germicide, most useful when given freely *in the first stages*, destroying the special bacilli, which, according to Koch's investigations, exist in the intestinal tract, *but not in the blood.*

In the forms of indigestion in which calomel acts so well, especially when attended by the flatulence of fermentative or putrefactive processes, we may infer its *modus operandi* from the statement previously presented in regard to its control over such developments, while not hindering the physiological action of the gastric and pancreatic juices. Furthermore, it starts a flow of bile, which has its own action, from the ducts and gall-bladder, and thus induces derivation from the liver, even if the drug is not a direct stimulus to the secretory cells of that organ.

Other uses of the chloride of mercury I shall not here dwell upon, but I may repeat what I have published before, that the use of the bichloride of mercury used locally and constitutionally in my practice in diphtheria for years has been attended with the most satisfactory results. Some children, indeed, cannot tolerate even small doses, on account of gastric irritability; in such cases it seems not advisable to push it constitutionally, though it still may be used locally, in spray or gargle. It is hardly necessary to add that the success of the practitioner depends largely upon the hygienic conditions and surroundings of his patients. A curable case in a comfortable home might readily prove incurable in a crowded tenement-house.

Chlorine in its various other combinations deservedly finds much favor with practitioners in the allied diseases of diphtheria and scarlet fever. This is so much the case that muriatic acid, muriated tincture of iron, chlorate of potassium, and, recently, chlorate of sodium, are in almost universal use.

In my earlier practice, when Watson supplanted Cullen's *First Lines*, Mason Good, and Eberle, I was led to try the *chlorine mixture* in scarlet fever, as commended by Watson, and with excellent effect, but it had no obvious advantages over a dilute solution of hydrochloric acid, which is habitually very serviceable, and, indeed, always appropriate, except when, perchance, it proves irritant to the stomach and intestinal canal.

I do not propose to enumerate what or how many diseases are eminently benefited by the chlorine preparations, but I will make a passing commentary on one or two forms. In the U. S. Dispensatory it is stated that Dr. Christison and Dr. Elliotson "have obtained in consumption a more decided improvement of the symptoms by the use of chlorine inhalations than by any other means."

Independently of so high authority, presumption is in favor of such agency. Let us suppose a pulmonary cavity without protecting epithelium or limiting membrane wherein bacilli may abound and multiply. If they be causative, it is important to destroy their vitality and arrest multiplication. The chlorine vapor, though irrespirable in quantities sufficient to destroy them entirely, may greatly restrain multiplication, having some such power as carbolic acid and alcohol have (Sternberg), and, *quoad hoc*, relieving symptoms and tending to cure.

I shall here introduce but one other chlorine combination, which has remarkable properties. I was called into consultation lately with Dr. Hundley of this city in a case of Bright's disease, marked by albuminuria, hyaline casts, and general cachexia. The doctor had used upon this patient the chloride of gold and sodium in doses of gr. $\frac{1}{20}$ as recommended by Prof. Bartholow, *ter in die*, with such good effect that his patient had left his bed and returned to his ordinary business pursuits. He seemed to be convalescent, but in a few weeks he was housed again with gastric catarrh, hepatic tenderness, and other perturbations, *plus* albuminuria. I suggested a course of treatment which gave the patient some relief, but he requested a resumption of the little pills (the chloride of gold and sodium), which we consented to give, and which again had a very beneficial effect. Cure was not probable, but our patient always defeated his own chances by too much indulgence in strong potations, utterly ignorant or regardless of what Anstie called the *poison-line*, whenever he left the house.

The chlorides have great potentialities in doing harm as well as in doing good (*nil prodest quod non possit lædere idem*). It may be a proof of the utility of calomel when properly used that it was so fearfully abused some years ago.

I saw a man seriously ill a few weeks ago from a terrible salivation, resulting from the use or abuse of calomel as recommended by a non-professional friend and fellow-sufferer. It is my opinion, however, that my patient never had syphilis, though he always gave most confidence to such advisers as most strongly confirmed his monomania upon the subject.

Of course, the chlorides may be very effective poisons. There is at least one case of a man being fatally poisoned by so useful, and ordinarily so harmless an agent as the chloride of sodium.

While writing this, I observe, in a medical journal, a case of death from chlorate of potassium, where a man took a teaspoonful every two hours until he took in all nearly two ounces. (Dr. Bohm.)

Dr. Johnson's cases, already spoken of as detailed in the *Sanitarian*, are very instructive and interesting. Six persons in one family were dangerously poisoned who had partaken together at one meal of canned tomatoes. Within two hours all were ill. Burning in throat and stomach, retching, tenesmus, gastro-enteritis, and coma, with some, soon followed in order. Epileptiform convulsions; dark, tarry stools, a colliquative sweat, and hemorrhages from the bowels happened in the worst cases. In one case a severe skin eruption, in another partial paralysis of the left arm, and a threatening swelling in the left iliac fossa. All were very ill, but the oldest daughter, who had soaked bread in the liquid part of the food, was most deeply affected. The question was, What was the poisonous agency—spoiled tomatoes, lead, copper, or other matter? Some of the symptoms may come from any of those agents, but not all of them. The tomatoes were gone, but the can was left, and it was noted that the tin was corroded about the open edge. Dr. Johnson took the can to a tinsmith, who at once explained the corrosion. The cap of the can was secured to the head, not by a resin amalgam, but by an amalgam made of the *muriate of zinc*. The poison was, in fact, a muriate of zinc and tin, and the acid around the cap had eaten off the tin and had permeated the contents, and principally the liquid portion. The girl who had eaten this had suffered much more than her brothers, who had eaten the tomatoes from the lower part of the can.

The danger of using the muriate of zinc amalgam, or flux, is so well known in Maryland that its use is forbidden by law. It is to be hoped that the danger will be equally well known and guarded against henceforth wherever canneries are in operation.

The preceding illustrations are intended to indicate, by suggestions rather than in detail, the capabilities of chlorine and its combinations as germicide or disinfectant, as therapeutic agent, and as an overt or insidious poison. Few agents are more valuable in medicine, and not many are more dangerous if improperly used.

BALTIMORE, June 24, 1884

A PRESUMABLE ETHER-DEATH FROM HEART FAILURE,

BY JOHN B. ROBERTS, M.D.,
SURGEON TO ST. MARY'S HOSPITAL, PHILADELPHIA.

DANGEROUS symptoms from ether anæsthesia are usually respiratory; hence it has become too much the custom to watch the breathing rather than the pulse during the inhalation of ether. In the *Philadelphia Medical Times*, June 4, 1881, I reported, from the practice of a friend, a case of anæsthesia in which danger was first perceived through the circulatory system, and in which death from heart failure occurred. I again report an instance of death from cardiac symptoms arising during etherization. In this clinical history there are more elements of doubt than in the other, for, as post-mortem inquiry was unattainable, death may be attributed to other causes than ether anæsthesia.

Venous thrombosis and embolism, internal hemorrhage from unrecognized visceral injury, and fat embolism have presented themselves to me as possible causes of the fatal issue. I have, therefore, designated the case one of Presumable Ether-death, since it is in my opinion impossible to arrive at the exact cause of the fatal result.

A few days ago a fat German, about fifty years old, the driver of a beer wagon, was admitted to the surgical ward of St. Mary's Hospital with a large and deep laceration of the right thigh. He had slipped while attempting to jump upon his wagon, but the exact method of receiving the injury is unknown to me. When I saw him a couple of hours after admission he had a rather feeble pulse of about 100, but presented no evidence of marked shock. He was perfectly conscious and rational, had a good color, and was losing no blood of importance. The character of the wound makes it probable, however, that quite profuse hemorrhage had taken place immediately following the receipt of injury. On admission the thigh was firmly bound by a handkerchief, which did not, however, stop the arterial pulse below. I found that the wound, which was a simple tear, extended around the inner half of the thigh from front to back, exposing the muscles at the apex of Scarpa's triangle, and laying bare about an inch and a half of the femoral artery and vein. A good deal of loose clot occupied the irregular spaces among the torn structures.

After feeling the pulse, I decided it proper to give an anæsthetic, in order to examine the wound thoroughly and secure any dangerous vessels before suturing. I at the time said to myself that ether would probably strengthen the feeble pulse. Ether was given by Dr. Frank V. Cantwell, one of the resident physicians, who produced anæsthesia with but a moderate amount of excitement and struggling. I removed all clots from the wound, washed it thoroughly with carbolized water, and finding no vessels demanding ligature, placed a strand of horsehair drainage material in it and proceeded to apply sutures. During this time anæsthesia was kept up in a rational manner; that is, when the patient began to snore after the first use of ether the towel was temporarily withdrawn from his face, to be reapplied as he began to show signs of sensation by moving his legs. When three sutures had been adjusted, the etherizer said something about a weak heart. I looked up from the seat of operation, and, as I had frequently done before, glanced at the patient's face, which to my astonishment presented a death-like pallor. Respiration had nearly ceased.

There had been at the time no stertor, and no rattling of mucus in the bronchial tubes. No vomiting had taken place at any time. Immediately the patient's tongue was drawn forwards and held so by means of a tenaculum, while his body was inverted by two assistants standing upon the bed and holding up his legs. The head, hanging over the edge of the bed, was steadied by me sitting upon the floor. Artificial respiration was at once instituted by a third assistant, who elevated and depressed the arms while the patient was kept thus inverted. This position was maintained for nearly an hour, during which time nitrite of amyl and ammonia were administered by inhalation, and sulphate of atropia (gr. one-fiftieth) and tincture of digitalis (f℥ij) hypodermically. He rallied sufficiently to become perfectly conscious, struggled against our manipulations, and repeatedly asked for water. The cyanotic appearance of the ears persisted, however, though the lips and face assumed a more natural color. Voluntary respiration became at one time pretty well established, but the feeble heart and fluttering pulse continued. Ten minims of aqua ammoniæ diluted with an equal bulk of water were injected into the arm. Afterwards the condition became so desperate that I injected, at intervals, five hypodermic syringefuls of aqua ammoniæ and water into the femoral vein exposed in the wound. The amount of ammonia thus used was fifty minims diluted with an equal amount of water. Owing to the difficulty of inserting the needle with accuracy because of the position of the patient and the want of light in the wound, some of the fluid did not enter the vein. It was thought that a slight increase in strength of the radial pulse was noticeable after the successive intravenous injections of ammonia.

The interrupted current was applied to the chest walls for a few moments, but was soon discontinued, as respiration was more effectually kept up by raising and depressing the arms, and danger seemed to threaten from circulatory rather than from respiratory failure.

After these various measures had been carried on for about an hour, the patient was placed horizontally upon the bed, but this position was followed by greater depression, and the inverted position was resumed. Progressive failure of circulation and respiration continued, unconsciousness finally supervened again, and death occurred about an hour and a quarter after the first signs of danger. No autopsy was obtainable.

Dr. Cantwell, who etherized, reports that he had poured upon the towel in all about five fluidounces of ether; that early in the administration the rectum was unconsciously emptied of semi-liquid feces, and that before he noticed change in pulse or respiration the small capillaries of the florid face lost their red color.

The fatal termination in this case might be attributed to fat embolism, but the open and gaping wound and the short time after injury make such an explanation improbable. Internal hemorrhage from a large vessel partially divided at the time of receiving the blow or crush which injured the thigh may have occurred, and produced sudden collapse during the progress of anæsthesia. This does not seem highly probable because there was no violent struggling, but at the time the patient lay in a quiet sleep. Another explanation is more tenable. After the laceration of the numerous veins upon the inner side of the thigh, among others the internal saphenous, the formation of a large thrombus therein probably took place. The moderate struggles of the early stage of anæsthesia and the manipulations by which clots were removed and the wound rendered aseptic could readily displace portions of this thrombus, which might be washed up into the circulatory current as emboli. Such emboli would be most likely to lodge in the lungs and give rise to pulmonary symptoms, such as dyspnœa and cyanosis, which would be expected to show themselves while manipulations in the wound were in progress. The clinical history, however, shows that the initiatory symptoms of danger were cardiac, and arose while the *exterior* of the wound was being sutured.

The most probable cause of death, therefore, seems to be cardiac failure due to the toxic effects of ether. My former experience in watching such a death makes me more willing to accept this explanation. While the case was under treatment I felt so assured of the symptoms being due to ether that I abstained from the use of alcoholic stimulation, employing atropia, ammonia, amyl, and digitalis for their tonic cardiac action.

CASE OF DEATH FOLLOWING THE INHALATION OF CHLOROFORM.

Reported by P. L. HILSMAN, M.D.,
OF ALBANY, GEORGIA.

MISSOURI W., mulatto, æt. 37, laundress, well developed, weight 160 pounds, and apparently in robust health. On May first, she went by appointment to office of Dr. Osborn, dentist, to have her teeth extracted under the influence of an anæsthetic, having taken a light breakfast early, four hours before, as directed. After making an examination of thorax and satisfying myself that the heart and lungs were normal, I administered chloroform from a cone rudely constructed out of an unstarched towel. Dr. Osborn desired to remove the entire upper set, and also two posterior roots from the lower jaw. The latter being difficult to reach, he requested that she be only partially anæsthetized, in order that she might aid him in her voluntary efforts in the extraction of the roots.

Patient took the chloroform without fear, and when I thought her sufficiently anæsthetized, she was requested to open her mouth, and one of the roots was extracted. She resisted the operation, using her feet so violently as to require an assistant to hold them. She was requested to open her mouth a second time, and Dr. Osborn begun to adjust the forceps to the other root, the chloroform being placed as near to her face as I could get it, in order that its effects might be kept up, as we desired to get her fully under its influence before extracting the upper teeth. During the efforts to adjust the instrument to this root, the patient resisting, she suddenly gave a sigh and ceased to breathe. She was at once taken from the chair and placed upon the floor, and artificial respiration used; the tongue was drawn out, and flagellation over the thorax with cold cloths was also used. Respiration gradually returned, though it was irregular and stertorous in character. There being no corresponding impulse in the heart, we used the galvanic battery, but without excitng in the faintest degree its action. Respiration continued for a brief time, and patient died. No post mortem was allowed.

Remarks.—Death appeared to result from paralysis of the heart, induced by the toxic effect of the chloroform. The chloroform was used from a fresh pound bottle put up by W. H. Schieflin & Co., of New York, and stands the test for purity. I anæsthetized another patient from the same bottle without any unpleasant consequences.

The peculiar feature in the case is that the patient was not brought fully under the influence of the drug before the fatal issue. Not exceeding one ounce was used, and a great part of this still remained saturated by the towel.

A TREATMENT OF SCROFULOUS CONJUNCTIVITIS, ASSOCIATED WITH NASAL CATARRH.

BY LOUIS KOLIPINSKI, M D.,
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THE treatment of conjunctivitis is fully described in works on ophthalmology. Graefe and Saemisch introduce the subject well in saying, in the article on "Conjunctivitis Catarrhalis Simplex:" "The therapeusis of catarrhal conjunctivitis has to investigate the cause of the inflammation, and, if possible, to remove it" (*Handbuch der Gesammt. Augenheilkunde*).

The writer of the article "Cornée" in the *Dict. Encyclop. des Scien. Mèdicales*, tome xx. p. 498, speaking of the pathology of the subject, carefully prepares to meet this persistent and recurring enemy: "Our first precaution to take against phlyctenular keratitis is to destroy its complications. This is a malady which, according to the happy expression of Bowman, applied, it is true, to another subject, it is necessary to attack, like a fortress, by successive approaches. We must cure the nasal and labial erosions. . . . We must cleanse the nostrils. . . . We must finally examine the lachrymal passages. There is a last thing which we must not pass over or neglect. It is to assure ourselves that there is no point of permanent irritation at the extremities of the fifth pair."

The quotations show that authorities recognize the fact that a coryza should be diminished or cured, although no statements have been met with regarding the results obtainable when no other local or general remedies are applied.

It is not the intention in this short article to discuss the mode of origin or the causes of the disease. It is simply offered, if for no better reason, that the treatment may be used to permit a careful and patient examination of the eyes of a struggling, unmanageable child.

During the past winter and early spring, there were treated in the hospital and dispensary services of Dr. W. V. Marmion a number of cases of conjunctival inflammation, associated with phlyctenular ulcers of the cornea. They possessed in the usual marked manner the symptoms: photophobia, blepharospasm, and lachrymation. A nasal catarrh with free mucous discharge was coexistent. In some cases both eyes, in others but one was affected. In the latter instances, the coryza was most marked in the nostril on the same side as the affected organ. The histories stated that the disease had remained as a sequel of measles, whilst in others in whom the acute infectious disease had occurred some years before, or not at all, the accounts indicated an antecedent nasal catarrh. The duration of the eye-affection had been varying—from one to two weeks, or as many or more months. A few of the children were scrofulous; the rest gave but little evidence of constitutional vice or debility.

The treatment in the nineteen cases consisted in having the patients snuff up the nostrils, three or four times daily, a solution of fifteen grains of potassium chlorate in one fluidounce of water. In those too young to do this thoroughly, and in the obstinate, the same solution was dropped from a phial or pipette. The use of the remedy was found to be agreeable to the patients. Local treatment of the inflamed surfaces was omitted. The distressing symptoms, which necessitated the wearing of a shade or bandage, disappeared in from one to three days. At the next visit, the patients invariably presented themselves with the eyes tolerant of light, and the deeply injected mucous membrane of a much more normal hue.

The nasal discharge was lessened; incrusted mucus removed, and the excoriated upper lip in an improved condition.

Whilst this favorable state did not in all instances terminate in as rapid a cure as the speedy amelioration might have caused one to hope, yet in some instances this really happened.

The two following histories may serve as a type:

CASE I.—April 21, 1884. H. P., male, black, aged ten years. Has been delicate since birth. In Nov. 1883, had measles. The eyes, which had been previously affected, grew worse thereafter. He is compelled to wear bandage and shade, and cannot tolerate daylight. *Examination:* nutrition fair; discharge from both nostrils; upper lip swollen and excoriated; blepharitis, conjunctivæ inflamed; phlyctenulæ on both corneæ; in the right eye an ulcer near the centre. After two days the boy was at play. His eyes have given him no discomfort since. A slight opacity marks the spot of the corneal ulcer. He is treated for the marginal inflammation with an ointment of the yellow oxide of mercury.

CASE II.—April 28, 1884. W. T., male, black, aged eight years. Has had sore eyes for about two months, with a discharge from the nose. Has always been healthy. Has not had chickenpox, measles, or scarlet fever. Mother healthy. Father whilst young was scrofulous, now has consumption. The nasal discharge is worse from the right side. Skin about anterior nares excoriated, inflamed, covered with bloody crusts, and bathed in a fluid discharge. The conjunctivitis more intense in right eye. Eyelids thickened, epithelium rubbed off. An ulcer on right cornea near limbus. Was treated for last six days by a physician with some collyrium. Condition not improved thereby. Has great intolerance of light, and, although a bandage is worn, still holds his head in his hands, and constantly wipes away the flow of tears. On the third day of treatment is completely relieved. No discomfort or suffering. A week after is discharged cured, the nostrils in the meanwhile having been cleansed once or twice daily.

Whilst these may represent the more successful cases as regards *a cure*, yet the symptoms which are so characteristic of the affection were invariably relieved. The following is an example:

CASE III.—March 28, 1884. H C., female, black, aged nine years. Eye sore for about one month. Small ulcer on left cornea. Atropia instillations.

April 4.—Much improved. An ointment of the yellow oxide of mercury substituted.

11th.—No photophobia; conjunctivæ acutely hyperæmic; pupil moderately dilated.

25th.—Eyelids slightly swollen; conjunctivæ very red; lachrymation and great photophobia; discharge from left nostril. Has not attended service regularly. The solution of potassium chlorate directed to be snuffed up the nostril. No other medication.

27th.—Can bear light without the shade or bandage; conjunctiva much lighter in color; no pain, no discharge of tears; condition of comfort has remained; ulcer shows no tendency to heal. Applied topical remedies again. The lesion begins to get well, no nasal discharge.

With what pleasure could one not view the timid, faltering, light-fearing patients restored in so short a time to assured and contented beings.

HOSPITAL NOTES.

CINCINNATI HOSPITAL.

Service of N. P. DANDRIDGE, M.D.

TWO CASES OF EXTERNAL PERINEAL URETHROTOMY WITHOUT A GUIDE.

(Reported by W. H. WILDER, M.D.)

CASE I.—Mike S., laborer, aged fifty-three, was admitted to the Hospital on the evening of December 30th, and gave the following history: About five weeks before the date of admission, while engaged in work about a building, he fell astride a joist, and soon after the accident experienced severe pain in the perineum; and noticed extensive extravasation of blood into the tissues of the scrotum, thighs, and abdomen. He stated that no hemorrhage occurred from the urethra at the time of the accident or at any subsequent period; and said that micturition had been accomplished readily up to a time about thirty-six hours before his admission, but that the stream had steadily decreased in size. When admitted, he said that the bladder had not been emptied for thirty-six hours, and he was suffering from intense pain from distention of that organ, and the dribbling consequent upon it, the "incontinence of retention." The dulness of the bladder extended up to the umbilicus. In the median line of the perineum, immediately below the scrotum, there existed a swelling about the size of a walnut, which was tense, red, and fluctuating, and suggested the thought of an abscess, which was dispelled by the fact that the swelling increased in size when the patient was in the erect, and diminished when he was in the prone position. This fact, taken with the statement of the patient that the tumor became larger during the attempts at micturition, seemed to indicate strongly that it connected with the bladder through a lacerated urethra. After several ineffectual attempts to introduce even the smallest catheter or the smallest filiform bougie, suprapubic aspiration of the bladder was resorted to and thirty-eight fluidounces of urine were withdrawn, affording the patient instant relief, to which he testified by most profuse thanks.

The urine dribbled all night, probably on account of the temporary atony of the bladder wall and sphincter muscle occasioned by the prolonged distention. On the morning of December 31st an attempt to pass a filiform bougie into the bladder was made, but this failing, external perineal urethrotomy without a guide was performed, the incision being made through the swelling above alluded to, which proved to be full of urine. The bladder was readily entered at this point, and the stricture was then divided in its whole extent. An enema was ordered and the wound dusted with iodoform. In the evening of the same day the pulse was 84, temperature 98½°, and the patient complained of no pain.

In the afternoon of January 1st, he had a severe chill followed by a rise of temperatute to 104°. Sponge bath and gr. xx of quinine were ordered.

January 2.—Much better; pulse 100; temperature 99½°. Urine was passed entirely through the cut. P.M. pulse 84; temperature 98.4°. From this time he improved, and the incision in the perineum gradually healed, the urine being passed partly through the cut and partly through the urethra. From January 10th a No. 15 English sound was passed daily until January 17th, when he was discharged. Urine was passed naturally, and the wound in the perineum had closed.

CASE II.—J. S., miller, aged twenty-nine, was admitted to the Hospital December 7, 1883, with a traumatic stricture of the urethra which was the result of a laceration of that canal caused by a fall astride a plank nearly one year ago. He stated that this accident was followed by bleeding from the urethra, swelling of the scrotum, perineum, and adjoining parts with ecchymosis; that his urine was drawn with a catheter for two weeks subsequent to the accident. His recovery, which was rapid, was followed by symptoms of stricture which continued to increase up to the time of his admission, when urine could be voided only by drops, micturition was accompanied by severe pain, and the smallest sound could not be introduced into the bladder.

On December 8th, Dr. Dandridge, after a careful but unsuccessful attempt to introduce a filiform bougie, performed external perineal urethrotomy without a guide. A Syme's grooved staff having been introduced down to the point of the stricture, was cut down upon and the contracted portion of the urethra laid open in its whole extent. This dissection was facilitated by introducing thread through the lips of the incision into the urethra, which enabled the assistants to keep the wound open, giving a clearer view of the parts involved in the operation. After dividing the stricture, which existed in the anterior part of the membranous portion of the urethra, a large sound was easily introduced into the bladder. The wound was left open. Patient had no pain after the operation, bowels were moved by enemata, and the urine was passed partly through the cut in the perineum and partly through the natural channel. Four days after the operation a No. 24 French sound was easily passed into the bladder, but a No. 27 failed to enter. From this time the wound healed kindly and rapidly; the patient's general condition remained good and urine was more frequently passed through the urethra. A No. 27 (French) sound was passed daily into the bladder until the date of his departure.

When discharged, December 29th, a very small opening, nearly healed, existed in the perineum, but the urine passed entirely through the penis. He received the injunction to have a large-sized sound passed into the bladder at regular intervals of one week for the next year, and after that once a month.

Remarks.—Both of these cases illustrate that form of stricture termed traumatic, impermeable stricture, and the operation necessary to give relief—external perineal urethrotomy without a guide. In neither case could the smallest filiform bougie enter the bladder, otherwise the operation would have been simplified.

The seat of the stricture in both cases was in the membranous portion of the urethra, and it is very probable, from the description of the accidents—a fall astride a joist and astride a plank—that the injuries were caused by the membranous urethra being driven violently against the sharp edge of the subpubic ligament and thereby sustaining a complete rupture of the mucous membrane together with the fibrous and muscular coats, as in Case II., or a rupture which left the mucous membrane intact, as was probably the condition in Case I.

This seems to be indicated by the distinct and repeated declaration of Case I. (who maintained it positively) that no blood had escaped from his penis; but there were considerable swelling and ecchymosis of the surrounding parts. In Case II. hemorrhage from the urethra occurred immediately after the accident. The swelling in the perineum alluded to in the first history, which occurred a few days before his admission, and not soon after the accident, was probably the result of rupture of the mucous membrane during the process of repair, and the extravasation of urine into the tissue between the two layers of the deep perineal fascia. The urine could not pass forwards on account of the attachment of this fascia to the rami and symphysis of the pubes. The presentation of this prominent mass, and the knowledge that it contained urine, rendered the dissection along the constricted track of the urethra much easier than it was in Case II. The dissection is necessarily difficult, but too much cannot be said in praise of the use of threads passed through each lip of the incision in the urethra, by which the wound is kept open and clearly in view without the intervention of retractors. The threads should be double and looped, so that the assistants at each side can hold the wound open. Since the method of treating the wound after external perineal urethrotomy, by leaving it open, has superseded the old plan of leaving a catheter in the bladder for a week or two to become incrusted with urinary salts and retard the granulation of the wound, better results have been obtained from this operation, and fewer perineal fistulæ are seen in consequence of it.

MEDICAL PROGRESS.

CHOLERA NOSTRAS.—DRS. J. PRIOR and D. FINKLER have just published, in the *Deutsche medicinische Wochenschrift*, of September 4, 1884, the results of their researches as to the nature of cholera nostras. These researches were made in the Medical Laboratory at Bonn, the experimenters having already made preparation for this study before the recent report of Dr. Koch on Asiatic cholera.

The first case which occurred at Bonn, on July 14, was that of a man who was suddenly taken ill, without previous symptoms of indigestion, with headache, vomiting, and diarrhœa. For two nights there had been cramps in the legs; the stools were clear and thin. The tongue was gray, choleraic voice, cold hands and feet. skin clammy; pulse was regular, weak, and 112. The case was diagnosticated as cholera nostras, and treated with Russian cholera drops and mustard plasters. On the following day he was apparently well. Within a short time after the occurrence of this case, five others occurred in one house, and three in another house not far off. Then the cases seemed to spread somewhat, and altogether twenty-nine cases occurred. One would naturally think that the first two houses had been centres of infection from which the disease spread. All of these cases recovered, and the patients regained their normal strength very quickly. In many cases the diarrhœa was almost immediately cut short by the cholera drops, so that scarcely any opportunity was offered for examining the stools. The stools were at first fecal, but soon became thin, watery, and clear, and contained mucous flocculi. Entirely colorless stools were not observed, however. It seemed very probable that the infectious material could be found in these rice-water discharges, and they were, accordingly, examined.

The first examinations were made in the usual manner with cover-glass preparations of dried particles. Nothing characteristic was found in these specimens. The early discharges were then examined, with the result that bacilli were found, which had a most marked resemblance to Koch's comma-bacilli, in size, shape, and general appearance. It was also especially noteworthy that these bacilli were often found in nests. Occasional gaps in the preparation which let in light, as crystals in a gland, were found to be filled with these bacilli, and here their contour could be plainly distinguished. No cocci, or only very few, were found in the immediate vicinity of these places; in fact, in the best preparations, in which the comma-bacilli were very abundant, other bacilli were very scarce.

As Koch has stated that the cholera bacilli are soon killed by drying, and that they do not color well when dead, Finkler and Prior experimented with the view of coloring the morphological elements of the discharges before they had been dried at a high temperature. A single drop was placed on a cover-glass, and subjected to a low temperature in a current of air; and another series of preparations were made by throwing the discharge directly into aniline, and after allowing it to remain therein for some time, specimens were taken out and dried on a cover-glass. The bacilli were not colored well by the latter method; but on examining the prepations a great number of large spirilli were found. They were at least five times as long as the bacilli, tolerably thick, the ends generally thinner than the middle part. These have never before been found in any intestinal discharges, at least by the writers. In some preparations both the comma-bacilli and the spirilli were found; and forms were seen which occupied a middle ground between the two, which seemed to be related to both. They especially emphasize the fact that they have never encountered such forms in any previous examinations. Normal stools do not contain them; nor do the discharges from typhus, tuberculosis of the intestines, diarrhœa of children, etc., contain them.

In view of these facts the following propositions are set forth:

1. They have found, in the discharges from persons who had cholera, which, in view of the manner of the outbreak and the absence of spreading, they must believe to have been cholera nostras, comma-like bacilli which very closely resemble the bacilli of Asiatic cholera, found by Koch.

2. In the stools from the same cases large numbers of spirilli were found.

3. These were the only objects of a specific nature which were found.

Culture-experiments were undertaken with small particles from the discharges placed some on moist linen, and others on pieces of potato. These were examined after forty-eight hours, and it was found that the bacilli had entirely disappeared, and only some small micrococci were observed. This was the result in about fifty cultures. It was evident, therefore, that some other method than that employed by Koch for ascertaining the nature of the bacilli must be used. The discharges were fed to dogs, but with entirely negative result.

As to the question, whether these were cases of cholera nostras or Asiatica, it must seem that the evidence is in favor of the former. The outbreak was not strictly an epidemic, and none of the cases died. Koch has reported that his examination of the discharges from a very rapidly fatal case of cholera nostras showed no comma-bacilli. But it must be remembered that Finkler and Prior also failed to find them in the fluid discharges from their cases; but when the early discharges were examined the bacilli were found. Hence, it must be concluded that they were carried out of the intestines by the first discharges, and the results of Koch's examination of the specimens in question must be thrown entirely out of the discussion.

Prior and Finkler conclude, therefore, that the diagnosis between cholera nostras and cholera Asiatica cannot be settled entirely by the microscope. As to the results of the culture-experiments, it is possible that, while the bacilli found in the cases of cholera nostras were similar to those described by Koch as occuring in Asiatic cholera, they may differ in their biological properties; and it is highly important that this should be definitely determined in one way or the other. Of course, the entirely negative result of feeding the discharges to animals has no weight whatever; as this is also true of the discharges from Asiatic cholera.

LUXATION UPWARDS AND FORWARDS OF THE STERNAL END OF THE CLAVICLE.—Luxations of the sternal end of the clavicle are rare; and dislocation upwards and forwards is so rare that Polaillon had never seen one up to 1875.

DR. PAUL FABRE reports the case of a young man, eighteen years of age, who received an injury while attempting to uncouple cars in a mine, with his right hand, the cars being in motion. He was struck on the right scapula and shoulder, thrown around, and his left shoulder was struck against the gallery-wall. Fabre found that the sternal end of the right clavicle was dislocated upwards and forwards. The luxation was reduced by double counter-extension; one assistant drew the right arm backwards, another drew the left backwards and outwards, and while a third held the patient steady, Fabre passed his left arm around the patient's neck, and with his right thumb pressed the dislocated end downwards and a little backwards. By this means the luxation was quickly and easily reduced. In order to retain the end of the bone in place, a pad was placed in the right axilla, and a dressing, similar to the Desault bandage for fractured clavicle, was made of pads and placed in front of the sternum. A cushion was also placed between the shoulders, and the right arm put in a sling. The patient was well in about two weeks.

The mode of production of this dislocation differs from that of luxation forwards. According to Follin and Duplay, the determining causes are: a fall on the shoulder, and all kinds of violence, which forcibly carry the shoulders backwards and consequently throw the sternal end of the clavicle forwards, and distend and rupture the anterior sterno-clavicular ligaments. The method of reduction employed by Fabre has not been used before.—*Gazette Méd. de Paris*, August 9, 1884.

ECTOPIA VESICÆ.—HOFFMANN has a paper on this subject in the *Mittheilungen aus der Chirurgischen Klinik in Greifswald*, 1884. If the defect of the anterior wall of the bladder is covered by flaps from the skin of the abdomen, the anterior wall thus made is covered by granular tissue or epidermis at most; which, in Hoffmann's opinion, is very incomplete.

Vogt attempted in one case to form the whole bladder from the mucous membrane, by loosening the excess of mucous membrane from the anterior wall and making a sac. Over that he brought a flap from the abdominal wall. In order to keep the urine away from the fresh wall a Nélaton's No. 5 catheter was placed permanently in each ureter, a hole having been burned in the end of the catheter with a hot needle. The skin-flap was, to a great extent, gangrenous. Nothing is said as to the state of the wound. The patient, a girl seven years of age, died in ten days of double purulent inflammation of the ureters and extensive chronic pyelitis.

Although the permanent drainage of the ureters caused death in this case, Vogt wished to use the method in another. The patient was withdrawn from treatment, however, after the urethral canal (Eichelkanale) was finished.—*Centralbl. für Chirurgie*, August 2, 1884.

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COAGULATION-NECROSIS.

Coagulation-necrosis is a term suggested by Cohnheim for a condition as to the precise nature of which, it would seem, pathologists are not entirely in accord. In his recent work, *The Elements of Pathology*, Prof. Rindfleisch says, "At the present time diphtheritic inflammation is defined to be an inflammation in which the lodgement of cleft fungi has produced, over a greater or less extent of surface, a condition of *coagulation-necrosis.*" He goes on to say that this form of necrosis is distinguished from the simple death of a part, in that the transition from life to death in the cells and tissues is accompanied by the coagulation of an albuminous fluid, and that the process bears so striking a resemblance to the coagulation of fibrin, that one is tempted to consider the two as identical. But the fact that the coagulation takes place by preference in the interior of cells and other tissue constituents, produces special microscopic and macroscopic effects.

By the microscope a peculiar homogeneousness of the protoplasm of cells, and a total disappearance of the nucleus are noted. Thus they lose their sharp contour and become flaky masses, which adhere and form larger, irregular, membranous surfaces. Very striking is the peculiar wax-like brilliancy evidently due to their impregnation with a highly refracting solid albuminous substance.

To the naked eye, coagulation-necrosis appears as an opaque desiccation of the dead part. As all the normal tissues, including bone, are partially transparent, and as the necrosis is usually confined to a limited area, we find sharply defined patches, distinctly separated from the surrounding tissues. These somewhat resemble escharotic crusts or scabs.

Like the eschar, too, the necrosed part produces an irritation, which invariably results in a reactive inflammation with corpuscular exudate. The strictly diphtheritic inflammation is violent, terminates in suppuration, and leads to the throwing off of the coagulated eschar and to the formation of deep-seated ulcers. This ulcer can, by repeated recurrence of the coagulation at the bottom and sides, enlarge and deepen, and even assume a gangrenous or phagedenic character before it begins to heal and cicatrize.

At the recent session of the International Medical Congress at Copenhagen, Prof. Weigert, of Leipzig, read a paper on this subject, before the Section of Pathology and Pathological Anatomy, which was noticed in The Medical News, September 13th, p. 299. He, too, defined coagulation-necrosis as a process by which tissues are transformed into a substance resembling coagulated albumen, comparing it to that forming fibrin and cheese. He says, however, that the change has been erroneously confounded with the coagulation of fibrin, and the cheesy change with desiccation and inspissation of dead tissues. The parts coagulated must be first dead, and also have the appearance of coagulation from a macroscopic aspect. Microscopically, it is characterized by the loss of cell-nuclei, although this may occur also in putrefaction.

As stated, the coagulation must succeed death as its result, not precede it as its cause; the organs must contain substances capable of spontaneous coagulation as do all the protoplasms. The cause may be ischæmia, trauma, chemical agents, or micro-organisms. The victims may be whole organisms, or new formations, or cells. Instances of the first are found in the products of extrauterine fœtation; of the second in infarcts, diphtheritic membrane, cheesy tubercle, medullary infiltration of Peyer's glands in typhoid fever, and tumors; and of the third in renal epithelium and leucocytes. The dead and coagulated tissue must be intimately connected with plasmatic fluids, hence must be in the interior of organs, or it must be vascular. Putrefaction and purulent poisons are opposed to coagulation. The fate of the coagulated part is softening, calcification, and the formation of hyaline substance as in waxy degeneration and coagulation of renal epithelium. The hyaline substance, he says, is not a special product.

In the discussion which followed the reading of the paper, Prof. Virchow, who considered Weigert's views somewhat obscure, objected to the name, which, he thought, might suggest that death was brought about by the coagulation. He preferred the term *inspissation.* It will be observed that Rindfleisch, too, speaks of the process as a desiccation, while

Weigert says it has been confounded with desiccation and inspissation of dead tissues. The first act in coagulation, according to Virchow, is the loss of liquid, and is independent of plasmatic fluids. Weigert holds that plasmatic fluids are essential. According to Virchow, owing to a loss of vitality, the water in the tissues is not held, the retention of liquid being an act of vitality. According to Rindfleisch, too, the process consists in the coagulation of an albuminous fluid. Virchow does not believe that the change of tissues to hyaline substance necessitates the absorption of liquid. In the dead fœtus the first occurrence is the absorption of the amniotic fluid. There is no coagulation, but an inspissation; no fibrin is formed. Intercellular spaces disappear and the external parts may be subjected to fatty metamorphosis, but the internal parts do not change, as in a placenta he had seen which had been forty years in the cavity of the uterus. A parallel might be found in muscular hemorrhage, where the blood is finally converted into a cheesy mass formed of compactly placed blood-corpuscles, where we surely have an inspissation and not a coagulation. Similar changes take place in cancer cells which shrink, and become dense and homogeneous.

Prof. Weigert admitted a loss of liquid, but claimed that it was primary and not secondary. Cheesy lymphatic glands are not diminished in size. The cells of tumors which have undergone cheesy degeneration, and the cells of cheesy pneumonia are not smaller in size. The loss of liquid is a subsequent event.

It is evident from the above that, according to Virchow's view, the process dare hardly be spoken of as a coagulation, but as a simple inspissation of new-formed tissue. If this is the case, there seems scarcely sufficient reason for the coining of the word. If, on the other hand, it is due to the infiltration of a cell or tissue with an albuminous fluid which coagulates, and that this immediately succeeds death, the word may be a useful one. Yet if this is the nature of the process, we do not think that the desiccated products of extrauterine fœtation and the exuberantly produced dead cells of a tumor, or the desiccated aggregate of cells in a hemorrhagic infarct, belong to it. If the term were simply applied to the necrosed and fibrin-infiltrated aggregate of cells which constitute the membrane of diphtheria, there would be good reason for its introduction, for we have no distinctive word for this process, while there are others for almost all the conditions which have been included under it.

A very simple modification of the term, which would obviate the objection of Prof. Virchow that it may suggest that the coagulation is the cause of the necrosis, would be to make it necrosis-coagulation instead of coagulation-necrosis.

ŒSOPHAGOTOMY FOR FOREIGN BODIES.

DURING the past ten months more examples of œsophagotomy for the extraction of foreign substances have been recorded than were published during the previous five years. We infer, therefore, that surgeons are now fully alive to the fact that the knife should be resorted to immediately upon the failure of efforts at removal with the forceps and other appliances. In such cases tampering is most dangerous, the statistics of Aldemann indicating a mortality of nearly 35 per cent. when the case is allowed to pursue an unaided course, and we trust that the future will show none of the curious examples that have hitherto been recorded, of the coughing up of coins and other extraneous substances after a sojourn of several months.

The most noteworthy contribution of the present year to the operation is from the pen of DR. LEROY MCLEAN, of Troy, New York, who reports in *The Medical Record*, for September 13, not less than five personal cases, of which four recovered, and among them one in which a tooth-plate had been impacted in the tube, at a point eleven inches and a half from the incisor teeth, for upwards of eleven months. In the fatal case, that of a man thirty-six years of age, the plate with two attached teeth, which had been swallowed twelve years and two months previously, was encysted eleven inches from the incisor teeth. It was removed with the forceps; but wheezy and labored respiration, and emphysema of the wound rapidly supervened, and death ensued from exhaustion and dyspnœa in forty-eight hours. The emphysema was due to rupture of the air-vesicles during a violent fit of coughing at the time of the administration of the anæsthetic.

In none of his cases did Dr. McLean close the wound, and he believes that liquid food should be administered by the mouth within a few hours after the operation, thereby doing away with nutritive enemata and feeding through œsophageal tubes. While the latter of these expedients should in our opinion not be resorted to, it is a question whether the partial escape of food by the wound is not equally undesirable, and whether the closure of the opening in the œsophagus, as well as the external wound, by sutures, as first advised by the elder Gross, along with nutritive enemata for the first few days is not a better procedure. In a successful case recorded in the *Transactions of the Medical Society of the State of West Virginia* for 1884, DR. HOWELL of Clarksburg, employed sutures and rectal injections; and iced water drank on the third day, and milk on the fourth day, indicated primary union of the œsophageal incision, there being no leakage. Were we ourselves called upon to do the operation, we would certainly employ sutures, with the hope of avoiding the risks of suppuration and the establishment of sinuses in the deep structures of the neck.

The most recent statistics of œsophagotomy for the removal of foreign bodies are those of Mr. Durham, in his article on "Injuries of the Neck," contributed to *A System of Surgery*, edited by Mr. Holmes and Mr. Hulke. Of the 45 cases, 35 recovered, and 9, or 20 per cent., perished, and in two the foreign substance was not found. We have ourselves a record of 71 cases, of which 53 recovered, and 18, or 25.36 per cent., died. In six the foreign body was not found, and in one, that of Sonnenberg, it slipped into the stomach and was expelled per anum. In two instances the fatal issue cannot be attributed to the procedure, as in one, a case of Billroth's, death was due to pulmonary tuberculosis, which existed before the operation was done, and in the second, in the hands of Billé, œsophagotomy having failed in its purpose, gastrotomy was performed, and the man died of peritonitis. Omitting these cases, the mortality of the procedure may be placed at 22.55 per cent., a rate which will surely be very materially reduced if, in the future, the operation be resorted to as early as it should be.

WATER-WASTE AND THE PROPOSED REMEDY.

THERE is no doubt that a large quantity of the water pumped into the public reservoirs is allowed to run to waste, either through gross carelessness or by design, without securing any particular benefit to the consumer by its lavish use. Recent careful investigations made by the water departments of some of our large cities have developed the fact that this waste is excessive, in some instances exceeding thirty-five per cent. of the total quantity distributed. This necessarily increases the water-rates over and above the figure which should suffice for producing a revenue ample enough for all legitimate purposes, and its remedy should very properly engage the attention of a wise administration. The correction of this fault requires the most careful and considerate action on the part of the authorities.

The liberal use of water is so essential to health that it would be better, from a hygienic point of view, to permit of its waste than to impose restrictions that might have a tendency to foster a habit of a too economical use of this most important commodity. If the people are willing to pay for the luxurious use of water, by all means let them have it. At the present time, the amount collected in Philadelphia from water-rents is several hundred thousand dollars in excess of the sum necessary for defraying all the expenses of the department, this excess being diverted toward paying the general expenses of the municipality. And yet there is no general complaint of excessive taxation in this particular, thus showing that the people are willing to pay freely for what they have the liberty of enjoying freely.

The metre system has been suggested as the proper remedy for the waste of water. By this system the amount of water used is automatically registered, and the consumer is charged at a specified price per 1000 gallons for all water used, and no more. The British Parliament has declined to take so retrograde a step as to permit the water companies to sell water by meter. As above intimated, the adoption of this plan does not deserve encouragement, for the reason that it would to a certainty cause such a restricted use of water as would be disadvantageous to the health and comfort of the people. It may be said of this plan that it is founded upon strict business principles, but it can be just as truly affirmed that it would be unpopular, and attended with disadvantageous results. If there be a need of departing from an old-time custom, let some other method first be tried. All that is desired to be accomplished might be brought about by inspections with the aid of the waterphone, by warnings, and by imposing a fine in cases of reckless waste of water. But even this plan has its objectionable features, as it would be difficult to discriminate between a necessary and a useless consumption of water, and, moreover, the invasion of the privacy of the household necessary to ascertain the fact would be resented by the people.

Bearing in mind the fact that the free use of water is now more than ever indispensable to the health and comfort of the people, it is difficult to see how any restrictions upon its consumption, even for the laudable purpose of preventing waste, can be at all advantageous except in the relatively insignificant particular of a slight reduction in the water-rates.

THE RADICAL CURE OF HERNIA.

IN a paper read at the recent meeting of the British Medical Association, and published in the *British Medical Journal*, for September 6, MR. BALL, of Dublin, expresses his conviction that torsion of the sac is the best means of bringing about a complete and permanent cure of hernia. The sac, previously isolated from the cord, is grasped with a clamp-forceps high up, and given five or six half-turns, or as many turns as may be necessary to impart the sensation of a decided resistance, which denotes that further twisting would be attended with risk of rupture. The neck of the sac is next firmly tied with an antiseptic ligature; a salmon-gut suture is passed through the pillars of the ring, and also through the sac, to prevent untwisting, and the operation is completed in the usual manner. In effecting separation of the sac from the cord, the three coverings common to both should be thoroughly divided before attempting the isolation of the former, and nothing should be twisted except the thickened peritoneum and subperitoneal tissue. It need scarcely be said that torsion of the sac can be more easily practised in inguinal hernia of the female and in femoral and other forms of hernia, in which the cord is not present to complicate the dissection.

Mr. Ball calls attention to the fact that in the modern operation for the radical cure of rupture, namely, ligature of the neck of the sac, with excision of the fundus and suturing the margins of the ring, the proportion of failures to the cures is somewhat large. Thus, according to Dr. Guénod, of 34 cases from the surgical clinic at the hospital at Bâle, there was relapse in 12; and in THE MEDICAL NEWS, for February 9, 1884, we showed, from the results obtained by the Liverpool surgeons, and from the statistics of Leisrink, that the operation fails in about 1 case in every 5. Hence, any modification of the procedure which will lessen relapses will be gladly welcomed by surgeons, and it is to be hoped that those having large opportunities in this direction will give the new method a fair trial. It should certainly secure a more complete closure of that portion of the sac situated in the inguinal canal than is afforded by the ordinary procedure, and it should also, by tightening and throwing into ridges the peritoneum, overcome the abnormal laxity and fulness of that membrane in the vicinity of the ring.

"OTHER LANDS—OTHER CUSTOMS."

ANY constant reader of the leading English medical weeklies must have been often struck with the difference between the importance attached to various matters in that ancient kingdom and that to which they appear entitled here. Not long since *The Lancet* invited the attention of its readers to the melancholy occurrence of an inflammation of the prepatellar bursa in the person of a clergyman; and a correspondent solemnly urged upon the class to which he belonged the duty of guarding against such consequences of their devotion by having a cushion with them on their visits to the poor, or at least of kneeling upon a folded coat. No place, they were wisely informed, was so beggarly but that in some way the perils of housemaid's knee might there be avoided. An excellent piece of advice, and no doubt much needed where knees are so tender, but one conceived in a spirit which fails to appreciate the solace a clergyman so afflicted would have in the proud consciousness of bearing ever with him a sign which, as well as any other, deserves to be characterized as "good for a clergyman, though bad for a horse."

Again, the *British Medical Journal* has lately called the world's attention to a singular, but more serious state of affairs. Under the caption of "An Ethical Point in Obstetrical Practice," it discusses what it calls "a distressing fatality." It seems that the wife of a baker had engaged a surgeon to attend her in an approaching confinement. When she fell in labor he came to her, but refused to give her his services because her husband would not leave the room. The surgeon left the house, was sent for again, refused to return, and the woman died before another medical man could be secured.

The temperateness of the comments of our contemporary on this truly "distressing fatality" might be supposed to be attributable to the fact that such occurrences are limited to the tolerably rare occasions when a baker-husband—whose personality we presume is peculiarly dangerous to the parturient female—insists on being with his wife at this critical juncture. But the language of a correspondent, quoted with seeming approval, indicates that the British medical man is impressed with the idea that the presence in the lying-in chamber of any husband whatever is dangerous to the patient and derogatory to the dignity of the physician. However, in view of the consequences to the recalcitrant baker and his—who knows but equally recalcitrant—wife, and perhaps children, the correspondent and the journal seem to feel some pity for these misguided wretches, and to think that circumstances might justify less inflexibility than was shown in this case in maintaining that dear right of the British medical man: to send a husband away from a wife writhing in those perils which call forth the prayers of the highest and lowest in the land in every morning service of the Church of England.

But, as we reflect, a grim question rises in our mind, and will not be silenced: Where would the British medical man be now if the British baker had been an American "cow-boy?"

SPECIAL ARTICLE.

INTERNATIONAL ELECTRICAL EXHIBITION, PHILADELPHIA.

[SECOND NOTICE.]

STATIC electricty is certainly coming more into fashion among sound electro-therapeutists, and the effect of this new departure is to be seen at the Exhibition. Queen & Co., among other displays, have some very fine Toepler-Holtz machines, both imported and manufactured by themselves. One very large wheel, 90 cc. in diameter, is capable of giving a spark 15 inches long. This size is used chiefly for scientific demonstration; the medical machine not being more than 25 cc. in diameter and giving a spark of from 4 to 5 inches. There are also shown machines with four revolving plates, giving a large quantity of electricity. This firm have modified the binding posts, which in the original were connected on one side with the condenser, but which are now fastened on both sides near the knobs.

In the display of this firm we have some very good instruments of precision. There is the chronograph with tuning-fork arrangement—the so-called diapason. The tuning-fork is worked by an electro-magnet at an ascertained rate per second, and is continuous and regular. It is claimed that this instrument, if not altogether novel, is very accurate. The principle of the microphone has been utilized for certain instruments of diagnosis and experiment. As is well-known, the microphone is so made that the electric force is transmitted through two surfaces in loose contact with each other: in these instruments the substance used is carbon. The smallest vibrations are thus transmitted, and—as it were—amplified, to a telephone receiver. So delicate is the instrument that the footfalls of an insect are distinctly heard with it. Boudet seized upon this principle to explore the *audible* contractions of muscle, and we have thus displayed his myophone. This instrument, it is asserted, will give comparative notes to the ear from muscular tissue in different states of tonicity and degeneration. It has been used, we believe, in locomotor ataxia, but with what clinical results we cannot here state. We have also the cardiophone and laryngophone, whose names sufficiently indicate their purpose.

Another instrument exhibited is a dynamograph—a modified dynamometer, arranged to record on the sensitive sheet of a chronograph. There are also many forms of excitateurs for stimulating muscles and nerves with electric currents. These instruments are from Verdin, of Paris.

There are fine tympani for experiments on animals, and a patent anæsthetizer for dogs, and stretchers for dogs, cats, and rabbits, which, while not exactly electrical, are in appearance calculated to excite the interest of both vivisectionist and anti-vivisectionist.

A curious and interesting *phantom*, or model, of the brain on a large scale, is shown. It is constructed of wires, and shows the course of the fibres in the hemispheres, basal ganglia, and cord.

The electric light has found one of its most interesting uses, to physicians, in the small incandescent illuminators which are being used for lighting the cavities of the body during surgical and dental operations, and for illuminating the field of the microscope. There are several displays of these. Queen & Co. have a very cheap little glass globe, containing a carbon filament, which can be lighted by one Grenet cell, and seems admirably adapted to microscopic work. It sells for one dollar, although fittings, etc., considerably increase the expense. Another exhibitor, who styles himself an M. D., has a mysterious box which contains an inviolate secret: it is kept locked, the elements forever to be unknown to the professional world, and only the effect seen in a small globe of light, which is certainly very brilliant, and is claimed to be superior to any yet invented. The White Dental Manufacturing Co. also exhibit illuminators to which we will refer when we come to describe their interesting display of electrical dental apparatus.

There is nothing especially new at the Exhibition in batteries, unless we mention a somewhat modified Leclanché, called the Diamond battery. This is a simple zinc and carbon combination in a solution of ammonium chloride. There is no provision for depolarization, which is effected by time, the battery righting itself, as it were, in a few hours after use. Its chief merit is its cheapness.

A very attractive exhibit is the patent electric incubator. The query naturally arises—Can chickens be hatched by electricity? That is not the scheme. The old-fashioned temperature of 102°, which has been maintained by the setting hen from time immemorial, is not dispensed with. It is only maintained permanently by an electrical appliance, and the hen is dispensed with. The heat of the incubator, which is supplied by an oil lamp, acts upon a rubber rod and expands it. At 102° the expansion of the rod has started an electric clockwork gearing which opens a ventilator in the top of the incubator and turns down the lamp. On cooling the rod contracts, the reverse process occurs, and so the temperature is kept at about one point automatically. To the medical mind, which has recently observed in the medical journals pictures of the French *couveuse*—designed as an artificial nurse for young and feeble infants—the suggestion comes, Why not heat it and regulate it with electricity just as the patent incubator?

A small surgical engine is exhibited. It is worked by an electric motor, and drives a simple piston and cylinder which is intended to act as a pump for exhausting abscess cavities, etc. It impresses one as being rather a toy than a useful instrument.

In the annex are two small rooms devoted to models, historical apparatus, and bibliographical collections. Here are to be seen many things, both curious and instructive—especially the early models, and in some cases the instruments themselves, of Franklin, Henry, Morse, and Edison.

We are pleased to record that the managers have retired one, at least, of the electric quacks to whose presence we regretted to be compelled to call attention in our first notice. The blood-cleanser is no longer there. There remain still, however, some few erratic therapeutists whose wares do not add to the scientific character of the Exhibition.

REVIEWS.

Elements of Human Physiology. By Henry Power, M.B. Lond., F.R.C.S., Ophthalmic Surgeon to St. Bartholomew's Hospital, London; Examiner in the Board of Anatomy and Physiology, Royal College of Surgeons. 47 engravings, pp. 389. Philadelphia: H. C. Lea's Son & Co., 1884.

This little book, one of the series of five manuals for students of medicine which supplement each other in regard to the entire round of physiological science, is an admirable condensation of the larger work of Dr. Carpenter, edited by Mr. Power. It has been, however, carefully brought up to date by its accomplished author, and now presents the latest English exposition of its department in the subject, which is well worth reading carefully over by every practitioner who desires to keep himself fully informed in regard to the latest discoveries respecting the physiology of man. The others of the series, which form complementary volumes, are The Elements of Histology, by Prof. Klein; Clinical Chemistry, by Dr. Ralfe; Physical Physiology, by Dr. MacGregor-Robertson; and Comparative Physiology and Anatomy, by Prof. Bell. If, as Mr. Power suggests, these five little books are read together, the attentive student can scarcely fail to acquire a sound basis for the future practice of his profession.

The forty-seven engravings with which the book is illustrated are not quite worthy of the text, and the number of mere diagrams, especially in the chapter upon generation and development, is proportionately great. Some fault might also be found with the scantiness of the index, which even in a student's hand-book should be full and explicit, but these imperfections dwindle into almost imperceptible blemishes when considered in conjunction with the real and practical value of the work.

YEAR-BOOKS OF MEDICAL PROGRESS. A YEAR-BOOK OF SURGERY FOR 1883. Edited by CHARLES H. KNIGHT, M.D. 8vo., pp. x. 197. New York and London: G. P. Putnam's Sons, 1884.

THIS book is intended to give a summary of the most important contributions to the literature of surgery during the past year. Its contents are arranged topically, and refer to a large number of operative methods, some of which are old and well established, some comparatively new, or newly attracting attention. In regard to both, the editor's selection seems to be very judicious, and his work to furnish an excellent supplement to the private references which most industrious surgeons may be supposed to keep. Not the least creditable part of this book is the introductory chapter, in which a very brief summary of its contents is given, and a truly judicial spirit shown in the comments on debatable questions of theory and practice in surgery. To prepare such a book as this as well as the editor has done, not only shows considerable skill, but confers a benefit on the reading world which is often missed by original and more pretentious works.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF VIRGINIA.

Fifteenth Annual Session, held at Rawley Springs, September 9, 10, and 11, 1884.

(Concluded from p. 328.)

(Specially reported for THE MEDICAL NEWS.)

SEPTEMBER 11TH—THIRD DAY. MORNING SESSION.

IN response to an official telegram sent on the preceding afternoon to the first President and Honorary Fellow of the Society, Dr. Robert S. Payne, of Lynchburg, who has recently been stricken with paralysis, expressing the sympathy of the Society, a telegraphic reply was read, showing a deep sense of appreciation of the consideration shown him by the Society.

DR. WM. W. PARKER, of Richmond, by letter, presented the following resolution on

FREE MEDICAL EDUCATION:

Resolved, That, in the opinion of this Society, the establishment of eleemosynary medical schools with the present limited course of study in the States would be ruinous to the profession and a calamity to the public; that in our State it would be the means of driving away the best pupils and the most talented young men, and in the end ruin our own excellent medical schools whose success and permanency should rest chiefly upon the talents of their teachers, and not upon the treasury of the Commonwealth. Adopted.

DR. SAMUEL B. MORRISON, of Brownsburg, presented a memorial of Dr. J. Marion Sims, an Honorary Fellow of the Society, which was adopted by a rising vote.

DR. SAMUEL B. MORRISON, of Brownsburg, also presented the *Report on Advances in Obstebrics and Diseases of Women.*

DR. GEORGE. T. HARRISON, of New York, presented by invitation a paper on the

MODERN TREATMENT OF WOUNDS.

He thought the credit was due to Leiter of having been the first to devise a rational method of treatment with a full consciousness of the nature of the problem he had to solve. These problems are two: first to keep a wound aseptic; and, secondly, when wounds are already infected, to make them again *aseptic* by the application of antiseptic measures.

The first problem to be solved generally presents itself in this form. What is the method of performing an aseptic operation? This is accomplished: 1. By attention to the operating-table. It should be free from blood and pus, well disinfected by a solution of corrosive sublimate (1 to 1000), and covered with a perfectly clean blanket and sheet or other clean covering.

2. The field of operation must be carefully cleansed. The day before the operation the patient should have a general bath. That portion of the surface of the body which is the seat of operative measures is cleansed with soap and water. If there is much sebaceous matter, spirits of turpentine or ether should be used. Hairs in the vicinity should be removed by the razor, and the surface then disinfected by a five per cent. solution of carbolic acid or corrosive sublimate (1 to 2000).

3. The surgeon and his assistants should have hands and arms aseptic.

4. Instruments should be made strictly aseptic.

5. Hemorrhage must be arrested by tying all bleeding vessels with catgut.

6. The method of cleansing the wound is of importance. Silk or catgut should be used, rendered aseptic, of course. Drainage is essential. Rubber drainage tubing, or Neuber's decalcified bone drainage-tubes should be used. The rubber should be boiled before use and kept in a five per cent. solution of carbolic acid, and before introduction should be powdered with iodoform. The dressing necessary to maintain the aseptic condition was then described. The original Lister dressing was described, and Volkmann's modification explained, the object of which was to produce a *uniform* compression on the wound and its vicinity. The permanent dressing used by Neuber was described, the object being to apply such a dressing as could be kept on the wound intact until the healing process was completed, and in that way all interference with the wound-rest is avoided. The recent modifications of treatment introduced by Neuber, by which he proposes to give up drainage for all recent wounds, were described. He effects this merely by avoiding the formation of coagula within the wound. He, therefore, applies compression from without, buried catgut sutures, depression sutures, and skin implantation. Proof was then adduced to show that the healing process is accom-

plished more certainly and in a shorter time by the antiseptic than by any other method, and that the accidental wound diseases are best avoided by its use.

DR. SAMUEL B. MORRISON thought it best to let wounds alone, so far as probing was concerned. He had seen and heard of many cases that made him regard the use of probes as dangerous—especially in cases of gunshot wounds. Do not run the finger or the probe into a wound that possibly involves a vital tissue.

DR. HUNTER MCGUIRE, of Richmond, had used the antiseptic dressing, time and again, to its minutest detail, and is satisfied that Lister's first recommendations added to the fatality of cases. Carbolic acid is itself an irritant when used as Lister originally recommended it, and causes inflammations that oftentimes have proved fatal—especially in abdominal surgery. He is glad that plan has been abandoned. Antiseptics are undoubtedly good in large overcrowded city hospitals—where even the walls reek with septic poison. But for country practitioners to go out with the idea that town antiseptics were essential would be to teach a mistake. He appealed to the country doctors present to answer whether or not they had bad results from the refusal to use *antiseptic* surgery. Their successes were marvellous—equalling, when skilful surgeons operated, the most satisfactory tables that "antiseptic surgeons" could present. Where the air is pure, uncontaminated by vegetable or animal decomposition or septic poison, ordinary cleanliness of hands, instruments, and wounds, is altogether sufficient.

DR. I. H. STONE, of Lincoln, Londoun County, thanked Dr. McGuire for his practical remarks, which strongly confirmed him in opinions he had long entertained. He had often deemed it useless, in his country practice, to resort so carefully to the antiseptic methods adopted, perhaps, with propriety in city practice. He instanced some rare cases—one of wound opening the ankle-joint. In five or six days, by the simple use of cleanliness, the patient began to get well and later on recovered without an untoward symptom. Another case—a man with a history of a general mash-up in a railroad accident, resulting in several wounds—without other antiseptics than ordinary cleanliness, the patient got well in some thirty-five or forty days.

DR. MORRISON thought we could not be too careful in obstetric cases. He always uses antiseptics as a hand-wash for himself, and vaginal lavement for his patients, to prevent such diseases as puerperal fever, etc.

DR. JOHN NEFF, of Harrisburg, highly appreciated the remarks of Dr. McGuire as confirmatory of his own experience and observations. In cases of doubt as to septic exposure, he uses carbolized cotton as a dressing for wounds.

DR, J. E. CHANCELLOR, of Charlottesville, thought no remark used in the discussion should serve as a license for the non-use of antiseptics. There is no excuse for neglecting every possible means of saving life or hastening recovery. Especially are antiseptics valuable in lying-in cases.

DR. MCGUIRE added that he would not leave the Society under the impression that he does not think favorably of antiseptics when they are needed. All he meant to say on this subject was that antiseptics, being a fashionable refuge of the day, there were many cases not needing their use in country practice. In this very place, where the Society is now assembled, with all of its mountain salubrity, he would not care for the details of antiseptics in the event he were called upon to perform an amputation or open a belly. The experience of the country doctors who had spoken and the many personal conversations he had with other excellent country practitioners sustained him in this saying. He was not speaking of lying-in cases. He had reference only to general surgical cases in his remarks.

DR. MORRISON referred to a case in which the Lister spray was used according to the great author's recommendations, and the resulting irritation of the carbolic acid killed the patient.

DR. L. LANKFORD, of Bowers, could not bring himself to think that antiseptics were of so much less value in country practice than in cities. His early education after graduation was in a city hospital where all the details of antiseptic dressing and treatment were carefully carried out. He had seen doctors get off their horses in country practice, with sweaty hands, and without respect to the wash-bowl, at once enter upon the performance of a capital operation. He was unprepared to say what percentage of deaths or successes resulted, as compared with the practice of those who followed out every suggestion of the antisepsic method. But he thinks the doctor who does as he has known some do—without the slightest apparent regard for ordinary cleanliness—is guilty of a criminal act, especially in case of a vaginal examination of a puerperal woman.

DR. JESSE EWELL, SR., of Hickory Grove, stated that he had invariably made it a habit of his fifty years of practice to use soap and water on his hands before entering upon the performance of any vaginal examination or surgical operation.

DR. HUNTER, of Frederick Co., during an epidemic of scarlet fever, had some obstetric cases. He always carried with him at that time a solution of carbolic acid in glycerine, which he used on his hands, and he did not have a puerperal disease of any kind.

DR. ALEX. HARRIS, of Jeffersonton, Va., presented a paper on

MEDICINAL PROPERTIES AND THERAPEUTIC APPLICATION OF [VIRGINIA] FAUQUIER WHITE SULPHUR WATER.

The elevation of the springs is about seven hundred feet above sea-level. The hygienic surroundings of the hotel are unsurpassed. The remarkable lightness of the water, which has a strong sulphurous taste and smell, enables patients to take double the quantity of it as compared with free-stone water. Experience has shown that it is primarily diuretic, diaphoretic or purgative, and secondarily alterative and tonic. The first perceptible impression is stimulant, causing in many cases a sense of fulness of the head, and, in some, headache. The key to the explanation of the wonderful therapeusis credited to this water is furnished by its analysis. The nearly three grains of phosphate of iron, lime, and magnesia per gallon, supplies the pabulum which the overworked brain and nervous system require.

EVENING SESSION.

DR. JOSEPH A. WHITE, of Richmond, offered a resolution looking to the

ORGANIZATION OF A TRI-STATE MEDICAL SOCIETY,

representing Virginia, North Carolina, and West Virginia. Adopted.

Dr. M. A. Rust, of Richmond, in a paper on

TYPHO-MALARIAL FEVER,

reviewed the history of the disease as it first made its home in this country. He held that typhus and typhoid fever are not interchangeable, that one does not produce the other. During all the epidemics of typhoid fever in Richmond, the type has been generally mild, and mixed with malarial infection. Hence, oftentimes it is cured by quinine. He narrated his experience with the recent epidemic in Richmond, which was popularly known as "the Richmond fever." He spoke of the thermometric curve peculiar to the disease. He laid great stress on the bacillus typhosus as an etiological factor. Sometimes purely local causes develop typhoid fever. As to treatment, he thinks, as a rule, the best medicine is no medicine. Cold sponging gives comfort. He uses bismuth when there is profuse diarrhœa. Spirits and beef tea are to be given when the heart's action becomes feeble, and the resisting power low. He uses for diet, boiled milk throughout the whole course of the disease. The prognosis is generally better if there be a stormy beginning.

Dr. J. S. Stone, of Lincoln, Loudoun County, read a paper on the *Use of Massage and Electricity in the Treatment of Chronic Hysteria and Allied Nervous Diseases.*

RECTAL ETHERIZATION.

Dr. Wm. H. Coggeshall, of Richmond, presented a full and complete report of fifty cases in which this method had been employed, most of them gleaned from contemporaneous medical literature, but a few occurring in his own practice. After a careful analysis of the cases detailed in the different medical journals of this country, he concluded by saying that in certain operations about the face and mouth, there seemed possibly to be a future favorable for this method of anæsthesia. By this method the period of excitement, usually occurring at the beginning of anæsthesia, is certainly materially lessened, and insensibility is induced in a more quiet manner. There is also less probability of vomiting. The great danger to be dreaded is the occurrence of bloody diarrhœa or dysenteric evacuations, due to inflammation of the mucous membrane of the lower bowel. He related the details of two fatal cases, in which death was undoubtedly due to this cause alone. He did not agree with those surgeons who thought this method a valuable addition to our present means of producing anæsthesia, as there is too much risk to life involved to counterbalance the small amount of benefit to be derived from it.

Dr. Hunter McGuire read a paper on

INTESTINAL OBSTRUCTION,

which was specially devoted to diagnosis. As to treatment, he gave no purgative. The sheet-anchor is an opiate to quiet the peristalsis. It is unreasonable to expect such mechanical treatment as the administration of crude mercury to do good. If the symptoms indicate that the obstruction is removable by an operation, and if the obstruction can be at all definitely located, open the abdomen.

Drs. George T. Harrison, of New York City; J. M. Toner, of Washington; William Selden, of Norfolk; and F. M. Robertson, of South Carolina, were unanimously

ELECTED HONORARY FELLOWS.

Dr. Richard T. Style, of Richmond, presented

THE TREASURER'S REPORT,

which showed that $1016 had been collected during the year, and $757.45 were expended, leaving in the treasury $258.55.

In the evening, the managers of Rawley Springs tendered the Society

A BANQUET,

which was greatly enjoyed by the members.

September 12th—Fourth Day.

Morning Session.

The order of business was the discussion on *Malarial Fever*, which was opened by a paper from Dr. R. B. Stover, of Richmond, Va., which, owing to his unavoidable absence, was read by Dr. Upshur.

Dr. John N. Upshur followed with a paper on

MALARIAL FEVER AS IT EXISTED IN RICHMOND IN THE SPRING OF 1884.

It only partially responded to the influence of quinine. He thinks the name *typho-malarial fever* a misnomer. The cause of the Richmond fever was probably atmospheric. He does not think the cause rested in the drinking water of the city. The disease was mostly limited to young people. Besides, the same fever prevailed in other parts of the State. In many cases he noticed a coolness of the surface of the body as compared to the real temperature, and a further peculiarity was the prominence of the nervous symptoms. He reported several illustrative cases.

Dr. Wm. L. Robinson, of Danville, presented a paper on

TYPHO-MALARIAL FEVER PECULIAR TO DANVILLE.

He stated that nothing is known as to the bacteria of typhoid fever. Typho-malarial fever is something different from simple typhoid fever under the influence of malaria. Quinine does not affect typhoid fever; it cures typho-malarial fever, especially when given hypodermically. Milk diet is not good in the latter fever; it is generally rejected by the stomach. Beef tea, with its natural salts, is much better adapted to such cases. Typho-malarial fever does not prevail in the mountains as does typhoid fever.

Dr. Thos. J. Moore, of Richmond, Va., said that what malaria is has not been decided. It has no known limits of territory. We simply know that heat, moisture, and vegetable decomposition are essential factors. In wet sections of the country, we may do something by draining the marshes. He spoke especially of the two forms in which the disease generally manifests itself—the hemorrhagic and the pernicious. As to treatment, in all grave cases use quinine hypodermically. In the same way, Warburg's tincture may be administered, as he first saw recommended by Dr. Metcalf, of New York. The combination of morphine with the quinine is sometimes required in order to quiet the nervous perturbations.

Dr. M. A. Rust, of Richmond, Va., remarked that the views expressed in Dr. Upshur's paper are in perfect harmony with his own. The sooner we do away with the term typho-malarial fever the better. He would only comment on two points:

1st. Such expressions as "atmospheric influences," or "something in the air, " as pathogenic causes are misleading.

2d. "Typhoid fever modified by malarial poison." This expression involves the supposition that the pathogenic germs of both typhoid and malarial fever have entered the human body, and produce, as allies or antagonists, a certain series of phenomena. We have no proofs whatever to support such a theory, and if we admit it, we might as well admit the term typho-malarial fever. But he had shown, in the paper read the evening before, that typhoid fever must necessarily present all grades and shades of severity, from zero to the maximum, and that slighter forms of typhoid fever, with a duration of a few days only, are frequently observed.

The subject of *Scarlet Fever* was selected for general discussion at the next annual session, and Dr. Thomas J. Moore, of Richmond, was elected to open it.

Dr. H. M. Clarkson, of Haymarket, was elected to deliver the next *Annual Address to the Public and Profession.*

Upon invitation, the Alleghany Springs, of Montgomery County, Va., two miles from the Norfolk and Western R. R., was selected as the *place for the next meeting.*

At 12 M. the Society adjourned.

RHODE ISLAND MEDICAL SOCIETY.

Quarterly Meeting, held at Providence September 18, 1884.

(Specially reported for THE MEDICAL NEWS.)

THE Society met in Lyceum Hall, Providence, THE PRESIDENT, DR. O. C. WIGGIN, in the Chair.

DR. GEO. D. HERSEY, Secretary, read the records of the annual meeting.

Upon the recommendation of the Board of Censors, Drs. Gonzolo E. Buxton and Frank A. Payan were elected to fellowship.

THE PRESIDENT'S ADDRESS.

THE PRESIDENT briefly addressed the Society, asking for a manifestation of greater literary and scientific interest on the part of the Fellows. Attention was called to the fact that of the *twenty-four* medical examiners recently appointed in Rhode Island, *twenty* are Fellows of this Society and that it now becomes the duty of these officials to instruct themselves thoroughly with reference to the responsibilities they will meet. This matter of self-instruction would not have been easily accomplished a few years ago, but now the library of the Society offers excellent facilities for such research, embracing, as it does, a complete set of the *Transactions* of the Massachusetts Medico-Legal Society, the publications of the Sydenham Society, and numerous monographs on kindred subjects.

He believed it would be well for the Society to have some special subject for investigation each year, and as most organized medical bodies are tending in the direction of sanitary science, he would suggest for this year an investigation of those measures which will offer the greatest security against a visitation of Asiatic cholera to this country next year. He further remarked that whatever knowledge the public possess of correct living has come largely from the teaching of medical men. The habits of living in the majority of households are certainly better than they were a quarter of a century ago. The great advance in the matter of school hygiene was alluded to as one of the most important subjects physicians have ever sought to influence.

Contrary to the speaker's expectation, he had ascertained that in physical development American children are now superior to those of any other nationality.

It was finally urged that the Society establish a museum of pathological and anatomical specimens, to embrace illustrations of comparative as well as of human anatomy, both in health and disease.

REMOVAL OF A BROKEN CATHETER FROM THE URETHRA.

DR. S. O. MYERS, of Wickford, reported the following case: A man, sixty years of age, on account of partial paralysis, had for several years been resorting to self-catheterization, using a No. 10 American soft catheter. On grounds of economy, he did not renew the instrument except at long intervals. The last one used had become much elongated and very rotten, and had been partially broken in two and sewed together by the man's wife. Finally, when being withdrawn the instrument broke completely off, leaving some five inches of its length in the urethra and bladder. Dr. Myers found the end of the fragment about an inch anterior to the prostate gland, and succeeded in grasping it with the straight uterine forceps. It was so friable that the end grasped was twice broken off by the forceps, but the third attempt was successful and the remainder of the catheter was withdrawn.

DR. CASWELL remarked, in reply to a question by Dr. Myers, that probably the lithotrite is the best instrument with which to grasp a piece of soft catheter that is retained wholly within the bladder.

DR. CASWELL, of Providence, then reported

A CASE OF PELVIC ABSCESS.

the patient being 45 years old, stout and florid, and the mother of one child 17 years old. The woman had been subject to very severe attacks of metrorrhagia since the birth of her child, and it was thought advisable, last February, to dilate the os uteri and seek for the cause of the copious hemorrhages.

A sea-tangle tent was introduced, and followed by a second one, and that by a carbolized sponge, which completed the dilatation. Nothing abnormal was found within the uterus, except two enlarged Nabothian glands, to which he made an application of nitric acid. Toward the end of the first week general peritonitis developed, and was fully established by the tenth day subsequent to the dilatation. About five weeks later, a hard lump appeared in the left iliac region. Fluctuation was found ten weeks after the dilatation. An incision an inch and a half above Poupart's ligament gave exit to half a pint of healthy pus. From that time the case progressed very favorably, the patient being out of bed in two weeks, and entirely well at the end of a month. The excessive metrorrhogia has not yet returned. Dr. Caswell said that, without doubt, the abscess was the result of the use of the tents, and that the improvement in the chronic condition was due also to the tents, or to the application of the acid. Although the woman's condition became a critical one, and for a long time it was impossible to discover the seat of the abscess, he should feel justified in employing the same mode of treatment in similar cases.

The same gentleman also briefly mentioned two other cases. In one an abscess developed in the middle portion of the abdominal cavity, and the pus forced its way through the intestinal wall into the bladder, as both pus and fecal matter were voided *per urethram.* The other case was one of pelvic abscess which opened into the urethra.

DR. J. W. PORTER remarked that there was comparatively little danger of causing pelvic abscess by the use of a *single* tent, but the *second* one is apt to cause the trouble. He regarded the sea-tangle tent as safer to use than those made of sponge. Furthermore, in the majority of cases of uterine disease, pelvic cellulitis exists either in its active or dormant type, and when it does exist the use of tents should be avoided. He also thought that after the introduction of a tent the patient should be as carefully cautioned and watched as in case of a capital operation, and that for a physician to introduce a tent at his office and then allow the woman to walk home, though only to the next door, was criminal practice.

Next there was a discussion upon

GENERAL SANITATION AND ITS BEARING ON A POSSIBLE VISITATION OF CHOLERA NEXT YEAR.

DR. C. V. CHAPIN spoke at considerable length and gave valuable suggestions upon the maintenance of a sanitary condition of the city, claiming that a pure soil, pure air, and pure water were of chief importance in the defence of a given locality against an epidemic of cholera. The belief was expressed that, practically, to quarantine a place amounts to nothing in keeping off the disease.

DR. E. M. SNOW remarked that cholera first visited Providence in 1832, coming by way of Quebec, Montreal, Albany, and New York City. Great alarm was felt in Providence at the time, and a rigid quarantine was kept up against New York. Physicians were sent to New York to investigate the subject, and on their return they were not allowed to approach the city until they had been fumigated at a remote point. The report they submitted was published, and three editions were exhausted in ten days, so great was the excitement. The city was thoroughly cleaned up and not a case appeared for a long time, but the disease finally appeared suddenly, and caused twenty-five deaths. It was noticed that the cases were widely distributed, a single death only occurring in a family or neighborhood.

The second visitation of cholera occurred in 1849, when there were 150 deaths out of about 225 cases. Of the decedents 51 were Americans and 99 were foreigners. A national fast was proclaimed at that time and strictly observed. It was also true that the disease increased its ravages immediately after that holiday.

In 1854 cholera caused 159 deaths in Providence. Dr. Snow said he had personally seen some 200 cases of cholera and had carefully examined each case. He had never thought it a contagious disease.

After further discussion upon matters of local sanitation, the Society adjourned to a collation at Ardoene's.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Montreal Meeting, September 1 and 2, 1884.

(Specially reported for THE MEDICAL NEWS.)

PHYSIOLOGICAL SUB-SECTION OF THE BIOLOGICAL SECTION.

THE physiologists, English and American, attending the meeting of the British Association with commendable enthusiasm formed a sub-section for communications of special interest to them. They met in the medical school building, and there was, in addition to the physiologists themselves, a very fair attendance; the medical profession of the city and from abroad being well represented by some of its ablest members.

The chair was taken by **PROF. SCHÄFER**, of University College, London, one of the vice-presidents of the Biological Section.

The first communication on the list was by **DR. H. N. MARTIN**, Director of the Biological Laboratory of the Johns Hopkins University, Baltimore, and **MR. W. H. HOWELL**, a Fellow of that institution, and was

ON THE COAGULATION OF BLOOD.

They had, from their experiments, concluded that blood taken from different parts of the slider terrapin's vascular system clotted in an equal length of time; though a contrary view had been published by another observer. Their results tended to confirm the conclusions of Hammarsten rather than of Schmidt, viz., that paraglobulin is not absolutely essential for coagulation. Turtle's blood was allowed to stand upon ice for twenty-four hours, two-thirds of the plasma siphoned off; treated with sodium chloride to saturation to get fibrinogen, which could be dissolved in dilute saline solution. The fibrin ferment was made in the usual way. This added to plasma gave a clot which was rather more soluble in sodium chloride than ordinary fibrin. The ferment used was free from paraglobulin.

In reply to questions from Prof. Schäfer, **DR. MARTIN** stated that no experiments had been made to test the influence which lecithin had on coagulation, but that white corpuscles had been added to plasma with the result of causing clotting. He believed either that they, or a watery extract of them, were necessary for the process.

Prof. Schäfer stated that if the (white) blood-corpuscles in the echinoderms were filtered off, coagulation did not take place.

THE BLOOD OF LIMULUS POLYPHEMUS,

by **F. GOLCH** and **I. P. LAWS**, of Oxford. The most interesting facts were that the serum was more like sea-water than mammalian serum; the clot was more albuminous than fibrinous; that the coloring matter was allied to hæmocyanin; and that copper seemed to combine in this animal's blood with a proteid as iron does in the blood of mammals.

DR. MILLS asked if it appeared from the paper of the authors (who were themselves not present) whether they had taken special precautions in the ashing of the blood to avoid errors and fallacies as to chlorine, phosphoric acid, and carbonic dioxide.

In reply, **PROF. SCHÄFER** said that it did not appear from the paper itself, but he knew Mr. Laws to be an excellent chemist. The authors of the communication had had a great abundance of the blood to work upon. They did not give spectroscopic appearances, about which both Dr. Mills and Dr. McKendrick had asked.

ON VASO-MOTOR NERVES,

DR. BOWDITCH, Professor of Physiology, Harvard University, remarked that he had not intended to read a paper, but he would give some account of work he had been engaged upon for the past year or two.

He would, for the sake of having a working physiological hypothesis, assume that there were perivascular vaso-motor ganglia and vaso-dilator and vaso-constrictor nerves. Instead of dealing with variations in blood pressure by the thermometric method, he has constructed an apparatus on the *plethysmographic* principle, but finding a spring not delicate enough, had made use of a column of compressed air, acting on a Marey's drum and being graphically represented on a cylinder with a very slow rotation, which was moved by a special clockwork. The curves due to changes in pressure were so delicately represented that variations due to cardiac beat and to respiration were represented. The animals were curarized. He had found that the curve obtained depended largely on the frequency of the stimulus, but he purposed to continue the work, which was not yet complete.

PROF. MARTIN referred to a phenomenon he had observed in connection with the quantity of fluid passing through the vessels of an animal deprived of the heart, and in which a sort of artificial heart was substituted—*i. e.*, an apparatus allowing of a pause equal in length to the time of action, and with the result that as much fluid passed through when the action of the pump was intermittent as when a constant flow was maintained by Mariotte's flasks. He offered no explanation of this.

PROF. SCHÄFER thought that if we adopted the view that the action of the muscular substance of the vessels varied according to the kind of stimulus, for which we have some evidence, we might get a simpler explanation than that of vaso-dilator and vaso-constrictor fibres. This might also throw some light on the phenomenon mentioned by Dr. Martin. He greatly admired the ingenuity of the apparatus and methods of Dr. Bowditch, as did all the members of the Section.

DEMONSTRATION OF THE COÖRDINATING HEART-CENTRE OF KRONECKER.

DR. MILLS, Demonstrator of Physiology, McGill University, Montreal, previous to the sitting, had given, after the method of Kronecker, a practical demonstration. A dog was narcotized with morphia; curarized; the thorax opened in the middle line to avoid bleeding; the pericardium opened and stitched back, and a needle thrust into the actively beating heart while artificial respiration was maintained. When successfully done, the ventricles go into fibrillar contraction, while the auricles beat as before. The latter are under the influence of the vagus, but not the former. This is due to injury to a centre which is not a motor centre, nor an inhibiting centre, but a *coördinating* centre. At present this cannot be more definitely located than by saying that it is situated toward the main branch of the left coronary artery, and at the lower border of the upper third of the ventricle. Prof. Kronecker believes this centre is that injured in slight wounds of the heart causing death, in certain cases of sudden death from cardiac disease and typhoid fever, and in chloroform poisoning.

PROF. MARTIN had seen the phenomena when attempting to pass a canula into the coronary artery. He thought it was more likely due to the injury of one of the nerves near the coronary than to injury of a centre. He supposed that this interfered with the coördinated action of the muscles of the ventricle as brought about by the auricle.

PROF. SCHÄFER had seen the phenomenon by electric excitation of the ventricle, and took a view similar to Dr, Martin's.

PROF. BOWDITCH said it appeared that the injuries referred to by Dr. Martin were of nerves located on the surface, whereas in the demonstration it had been seen that the substance of the heart had been pierced.

PROF. MCKENDRICK, of Glasgow, thought that if it were due to injury of a nerve, recovery would take place in some instances at least, while in all these cases the dogs never had recovered the regular beat of the heart, as he had understood.

DR. MILLS thought the remarks of Prof. Bowditch and Prof. McKendrick were serious objections to the views of Prof. Martin and Prof. Schäfer. The theory of Prof. Kronecker was clear and simple, while it was doubtful if one like that advanced by Profs. Martin and Schafer was even yet warranted by the work of Gaskell and others as to the relation of auricle and ventricle in the causation of the cardiac cycle, while it was possible to understand how injury to a superficial nerve might interfere with the action of the centre.

ON THE CARDIAC NERVES OF THE TURTLE,

by **PROF. HUGO KRONECKER**, of Berlin, and **DR. MILLS**, of Montreal. In 1880, Prof. Kronecker had found *accelerator* nerves in sea turtles which he had studied at Naples. He also noted the peculiar behavior of the *vagus*. These experiments the authors had repeated in the Berlin Physiological Laboratory. They found that the nerves (accelerators) varied in different species, and even in different individuals. They also observed in two species of land turtle that the *venæ cavæ superiores* were under the influence of the vagus.

DR. MARTIN referred to a thoracic ganglion with a branch from it to the heart, with an accelerating function, in the slider terrapin.

ON THE FUNCTIONS OF THE MARGINAL CONVOLUTION,

PROF. SCHÄFER and **MR. V. HORSLEY** had undertaken experiments on the marginal convolution to endeavor to fill up the gap in the localization hypothesis of Ferrier, who found that electric stimulation had little, if any, effect on the muscles of the trunk. But these observers, by stimulating different small, well-localized areas of the marginal convolution of the monkey, did get movements of the muscles of the trunk, and the further forwards the stimulation, the more anterior the muscles concerned. By removal of these areas carefully on one side they had got incomplete paralysis; but when both sides were operated on there was such complete paralysis that the animal could not stand or sit; the spinal muscles were completely paralyzed.

By carefully removing the frontal lobes under antiseptic precautions, no inflammation followed, but the animal showed no paralysis. This is in opposition to the work of Munk on this subject. The matter was referred to by Prof. Purser, of Dublin, Prof. McKendrick, Dr.. King, of Hull, England, Dr. Bowditch, and Dr. Howard, of Montreal.

DR. MILLS said he could, from personal observation, bear testimony to the careful nature of the experiments of Goltz, the great opponent of the localization theories.

TUESDAY, SEPTEMBER 2D—SECOND DAY.

A programme of eleven papers was presented to the Sub-section for to-day, several of which, however, might, with more propriety, have been dealt with elsewhere, as they had very little physiological bearing.

AN APPARATUS FOR RECORDING CHANGES OF VOLUME.

PROF. SCHÄFER exhibited an apparatus filled with oil, into which a frog's heart, etc., could be placed, the changes in volume of which, during the beat, expressed themselves in the motions of a delicate piston, which could be recorded on a slowly revolving drum. The heart was fed, by means of a double canula, with a solution of dried ox blood.

All present agreed that this was a very neat and accurate apparatus. Prof. Schäfer stated that he had tested the accuracy of the cylinder's movements by photographing the movements of the column of oil.

REMARKS ON THE PROBLEM OF AQUATIC BREATHING,

PROF. MCKENDRICK, of Glasgow, described an apparatus which he had devised, and which he could apply to the gill covers of fishes, so as to register their motions. It consisted of a tambour, which, in some cases, was very small, fitted to the fish, to be observed and connected with the gill covers, the motions of which, acting on a column of air, were recorded on a revolving drum. By a swivel device the fish could move freely in the tank. The respiration curves were represented as found for a great many varieties of fish. They differed widely from one another, indicating much variety in the mode of respiration, but they agreed in that the more active fish, like the trout, had motions of the gills of a much more energetic kind than such a sluggish fish as the carp; but the amount of movement had no relation to the size of the fish. He had found the blood-pressure of fishes, in so far as examined, low—*e.g.*, in a pike twelve inches long, only 2 mm. of mercury. The tension of the gases in the blood of fishes, and also determination of hæmoglobin, had yet to be worked out.

PROF. MARTIN thought that the problem of the chemical energy liberated, owing to oxidation through respiration, etc., was simplified in the fish, inasmuch as it was not necessary that any of this energy should be converted into heat. He also suggested that some of the nudibranch amphibia of America might well be studied for the solution of kindred problems.

DR. MILLS mentioned that work on the respiration of fishes had lately been done in the Physiological Institute in Berlin, by a lady.

ON THE SECRETION OF OXALIC ACID IN THE DOG UNDER A VARYING DIET.

DR. MILLS said he had determined that of the methods extant, that of Schultzen was the best for the determination of oxalic acid in normal human urine, but in attempting to employ this method to dog's urine serious difficulties had been met with. After much labor he had so modified the method as to make it thoroughly applicable. The dog had had, after being brought into nitrogenous equilibrium, three diets, in succession, of (1) flesh, (2) flesh and fat, and (3) flesh and carbohydrates. He had shown that most oxalic acid was secreted under a flesh diet, which also rendered the urine highly acid; and more under a flesh and fat diet than on a diet of flesh and carbohydrates (bread). An elaborate table was shown, which brought together the results of the whole work which had extended over months.

PROF. SCHÄFER said no one who had not actually done such work could properly estimate the labor and care it involved.

DR. HOWARD, of Montreal, said that oxaluria was a very obscure disease, and it might be that this original work of Dr. Mills would throw some light on that subject.

ON THE MECHANISM OF ABSORPTION.

PROF. SCHÄFER, after referring to the difficulties of the mechanical theory of absorption, proceeded to explain that which for some years he had been inclined to hold and which he now believed partially demonstrated, though all the difficulties were not yet removed. Leucocytes had been observed between the columnar cells of the villi of the intestines, in the lymphoid tissue of the villus itself, and, later, in different degrees of disintegration in the lymphatic of the same. These had been *fixed* by osmic acid. His view was that these lymph-corpuscles, seen in such abundance, were the carriers of fat, etc., from the cells of the villus to the lymphatic; that they not only carried the digested food of the intestines, but assimilated it or further prepared it for the uses of the tissues, and then broke up and freed this material. There probably was also absorption direct by the columnar cells and the rest of the villus, but this was not the only way. He referred also to the absorption of the tail of the tadpole by the leucocytes migrated from the blood. His experiments outside the body to test the digestive capacity of the white blood-cells had been negative, but the conditions were very different from the natural ones.

PROF. MARTIN thought that while this theory did not do away with all the difficulties, it threw light on some points, such as explaining what became of the peptones which were not to be found in the blood to any appreciable degree, but were yet abundant in the digestive tract.

PROF. MCKENDRICK thought it in harmony with the later tendency to give more individuality to the different components of tissues.

DR. MINOT said that Zawarykin, unaware of Prof. Schäfer's work, had elaborated a similar theory.

DR. MILLS called Prof. Schäfer's attention to the fact that Landwehr, using his new and improved method of determining glycogen, could find no glycogen in leucocytes, though the quantity investigated was large. Mr. Schäfer had stated that the white cells changed starch into glycogen, and that he could see more of this in those cells that had been fed with starch than in the others.

MR. SCHÄFER could never see the network in the villi which Klein and Cohnheim referred to, and he also differed in some points from Zawarykin.

ON THE GROWTH OF CHILDREN.

Dr. Minot, in his paper, spoke of the measurements and standards of Quetelet, so generally used as "essentially incorrect." Very extended investigations had shown that the American was not only taller, but broader—in fact, a larger man than the Englishman. He referred to *phases of growth*, but maintained that life's whole career indicated a decline from the commencement of an independent existence. We were dying even while developing. He referred to Dr. Bowditch's elaborate measurements, etc., of the Boston school-children.

Dr. Martin referred to an observation of Dr. Bowditch's that in a certain family, the members of which he was accustomed to weigh weekly, he had found that a falling off in the ratio of increase in the weight of the children often indicated latent disease, as an attack of whooping-cough, etc.

Dr. Mills thought it hard to overestimate the value of these laborious researches. He asked if his own impression that German women were heavier in proportion to height than American women was correct?

Dr. Minot replied that such was the case, though they were shorter than American women.

CLIMATE OF CANADA AND ITS RELATIONS TO LIFE AND HEALTH.

Dr. W. H. Hingston, of Montreal, in this paper compared the French Canadian with the French of France; he was taller, heavier, and stronger than his French ancestor; the race was the "most prolific on the face of the earth," and the people did not seem to suffer by early marriages. The climate of Canada was singularly healthy, and there was no disease peculiar to the country, though climate modified the diseases common to Canada and other countries. There was an Anglo-American cast of countenance in the United States, but not in Canada. We are forming another type. The portraits he saw of the candidates for President strongly reminded him of the best specimens of the aborigines, barring color, beard, etc.

Several of the English members spoke on this subject, as well as some from the United States and Canada, very few seeming to agree with Dr. Hingston.

This closed the work of the sub-section for this year.

CORRESPONDENCE.

CHOLERA ON VESSELS AT SEA.

To the Editor of The Medical News.

Sir: I must respectfully ask to be allowed to take exception to a remark in your editorial of September 6th, p. 267, on the "Cholera Conference at Berlin," as to some cases mentioned by me being "apocryphal," etc. On the contrary, those cases upon which I insist (one only being stated as given upon secondary information) were made certain by direct and careful inquiry at the time. Not satisfied with the account received from the captain of the packet-ship Tonawanda (which was attacked with cholera when two weeks out from Liverpool), I visited the medical officer who had been on the vessel during the voyage, and obtained from him a professional narrative of the occurrence described. This was in 1854, when, by the epidemics of 1848–49 and afterwards, in Europe and America, medical men had become sufficiently familiar with cholera to need to make no mistake in its diagnosis, by sea or land.

As to such cases being "*always* apocryphal," I must refer to some well-known authorities. Dr. James Wynne, in his elaborate "Report on Cholera in the United States," and Dr. Gavin Milroy (one of the most eminent sanitarians of Great Britain), in the *British and Foreign Medico-Chirurgical Review*, October, 1865 (p. 444), assert distinctly that in 1848 two vessels, the New York and the Swanton, were attacked with cholera—one when sixteen and the other twenty-seven days out from Havre, when there was *no cholera at the latter port* when they left it.

Let me cite from Dr. Koch himself, as reported in The Medical News, Sept. 13, p. 294, a very close approach to a corroboration of this as a possibility. He observes: "It is noteworthy that on trading vessels, which carry all sorts of articles which could contain the infecting material of cholera, cholera never breaks out except during the first few days after leaving port. But on larger vessels it is otherwise; the outbreak may occur soon after leaving port, or it may not occur for two, three, or four weeks, or longer." No doubt Dr. Koch supposes such things to happen only when the vessels have left an infected port; but, besides the excessive improbability of such a *latent culture* of the bacilli as, on his theory, must be thus involved, we may repose upon the authority of Drs. Milroy and Wynne, against any such necessity, as above stated.

Many other facts, not at all apocryphal, could be easily brought up, were space afforded for them, in maintenance of the position I have taken. Such have been set forth in my essay on "Cholera, Facts and Conclusions,"[1] etc. Coming down to the present season, notice should be taken of the report to the Académie de Médecine of M. Brouardel, on his return from a mission of inquiry at Toulon; given in a letter from Paris, dated July 2d, and published in the *Weekly London Times* of July 4, 1884. Dr. Brouardel states that the first case of cholera at Toulon was that of a sailor on board of the Montebello (a vessel which had not left port for a long time), June 14th; the second case another sailor on the same vessel, June 15th. Neither of these men had been to sea for four or five years, and had no communication with the town or with the rest of the fleet. As to the Sarthe, a vessel which was accused of bringing the cholera from China, although there appear to have been two cases on board at Saigon, China, April 1st and 2d, the patients had been sent ashore, their beds disinfected, and the ship emptied, scraped, and well fumigated; while, during the *forty-five days'* passage to Toulon, *no case* had occurred in her. M. Brouardel very safely declares, therefore, that the Sarthe could not have brought the infection; and the Montebello sailors were shown not to have had the slightest communication with her sailors or cargo.

At the present date it may be fairly permissible to add another question to those propounded at the recent Berlin Conference: *What has become of the cholera-producing comma-bacilli at Toulon and Marseilles* where almost no more cases occur, at a time when (Sept. 15, 1884) over twelve hundred cases are reported in one day at Naples, with half as many deaths?

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[1] Philadelphia: J. B. Lippincott & Co., 1866.

In conclusion, I beg to say that when such facts as those upon which I have insisted are omitted from a discussion of their subject, it is simply so much the worse for the scientific character of the discussion. And the same remark applies to the share of attention given to or withheld from the very careful and minute investigations of Strauss and Roux in Egypt and Toulon, as reported in The Medical News, August 30th, p. 237, adverse to Dr. Koch's results.

Henry Hartshorne, M.D.

Philadelphia, September 15, 1884.

NEW INVENTIONS.

A POCKET URINARY TEST-CASE.

We have received from Parke, Davis & Co., a very neat and convenient pocket urinary test-case, which we think will become a favorite with the profession. It contains a complete set of Dr. Oliver's urinary test-papers for albumen and sugar, enclosed in an envelope, on which are printed directions for their use; also a rubber-capped dropper and two test-tubes, of which one is appropriately graduated.

We do not think that bedside urinary testing will ever be as popular in this country as it seems to be in England, but for the physician or consultant who has to visit a patient at a distance, this test-case is invaluable, far surpassing in convenience and security anything which has yet been suggested.

NEWS ITEMS.

The American Public Health Association begins its eleventh annual meeting at St. Louis, October 14th, and continues four days. The subjects designated by the committee for special consideration are: (1) Hygiene of the Habitations of the Poor, (2) Hygiene of Occupations, (3) School Hygiene, (4) Adulteration of Food, (5) Water Pollution, (6) Disposal of Sewerage by Chemical Action, (7) The Observable Effects upon Public Health of Official Supervision, (8) The Work of Municipal and State Boards of Health.

It is believed that the meeting will be one of the largest ever held. The Conference of Charities and Corrections meets at St. Louis the same week.

The Last Thing in Cholera-germs.—The *British Medical Journal*, of September 6, states that Drs. S. Maurin and Lauge, who have been working at Marseilles since the departure of the German Commission, report that they have found a mucor, which they believe to be the actual agent in the propagation of cholera, and which is the mature form of the bacillus in an earlier and lower phase. This mucor appears, they say, on the fourth or fifth day, on the putrefying stools of cholera, and on these only. It has the form of a mycelium, the tapering ends of which are surmounted by cup-shaped sporangia, which burst on the slightest agitation, discharging vast number of spores. These spores require for their germination to be deposited on, or to come in contact with, some putrid organic matter, when they develop into a mucor of another form, an anaërobium, which they believe to be the immediate cause of the phenomena of the disease, and which, in its turn sporifying, gives birth to the bacilli of Koch. The bacilli themselves are innocuous, but deposited on a putrid medium, and in contact with the air, they develop the first-mentioned mucor; and the cycle is renewed.

The first mucor, unlike the bacillus, possesses in a high degree the power of resisting the action of the so-called disinfectants; it is not killed by ten per cent. solutions of nitric or hydrochloric acid; it vegetates freely in a solution of carbolic acid of the same strength. and can sustain any temperature up to 302° Fah., but above this it breaks up, as it does also in a ten per cent. solution of tincture of iodine; and a specimen mounted in oil of turpentine went through its whole development up to the discharge of its spores. The bearing of these statements on the causation of the spread of cholera makes their verification a matter of the highest importance.

Koch's Method of Cultivating Comma-bacilli.—The Berlin correspondent of the *British Medical Journal* writes that, since the publication of Koch's Address, it was suggested that it would be advisable to give medical men the opportunity of knowing something more about the investigation of bacteria. Herr von Gossler, Minister of Public Worship, Education, and Medical Affairs, has ordered that a certain number of medical men be summoned to Berlin every year, to go through a course of study, lasting from two to three weeks, in order to learn the new methods of investigation connected with bacteria and microörganisms, but chiefly to become acquainted with everything connected with the comma-bacillus and the methods of cultivating it, used by Koch. The several federal governments have been already requested to select a number of medical men for this course. The day for the commencement of the first course will be fixed shortly.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 16 TO SEPTEMBER 22, 1884.

Caldwell, D. G., *Major and Surgeon.*—Granted leave of absence for one month and twenty days, to commence about October 15, 1884.—*S. O. 95, Headquarters Division of the Missouri*, August 16, 1884.

Middleton, Passmore, *Major and Surgeon.*—Having reported from sick leave of absence, assigned to duty at Fort Leavenworth, Kansas.—*Par. 2, S. O. 188, Headquarters Department of Missouri*, September 19, 1884.

Cronkliste, Henry M., *Captain and Assistant Surgeon.*—From Department of the Platte to Department of the Missouri.

Taylor, Arthur W.—*First Lieutenant and Assistant Surgeon.*—From Department of the Missouri to Department of the Platte.—*Par. 1, S. O. 215, A. G. O.*, September 13, 1884.

White, Robert H., *Captain and Assistant Surgeon.*—Ordered for duty as Post Surgeon, Fort Gaston, California.—*Par. 2, S. O. 110, Headquarters Department of California*, September 13, 1884.

Wilson, Wm. J., *Captain and Assistant Surgeon.*—From Department of Dakota to Department of the East.

Gardiner, J. de B. W., *Captain and Assistant Surgeon.*—From Department of Arizona to Department of the East.

Corbusier, Wm. H., *Captain and Assistant Surgeon.*—From Department of East to Department of the Arizona.

La Garde, L. A., *Captain and Assistant Surgeon.*—From Department of Missouri to Department of the Dakota.—*Par. 1, S. O. 220, A. G. O.*, September 19, 1884.

Barrows, C. C., *First Lieutenant and Assistant Surgeon.*—Granted one month's leave of absence with permission to apply to the proper authority for an extension of one month.—*Par. 4, S. O. 86, Headquarters Department of Arizona*, September 13, 1884.

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ORIGINAL LECTURES.

VERSIONS AND FLEXIONS OF THE UNIMPREGNATED UTERUS.

A Course of Lectures delivered before the Boerhaavian Society.

BY ELY VAN DE WARKER, M.D.,

OF SYRACUSE, N. Y.; FELLOW OF THE AMERICAN GYNECOLOGICAL SOCIETY.

LECTURE III.

THE QUESTION OF SYMPTOMS.

IN this lecture I shall endeavor so to discuss the facts that you will have to decide in a certain measure for yourselves. It will not do for those who believe that versions and flexions constitute a morbid entity, strictly defined by the subjective and objective symptoms that usually group themselves round a definite morbid condition, to regard as oblique or prejudiced observers, those who hold so strongly the opposite opinion. If we are going to know just the kind and degree of truth that belong to each, we must be free from the bias that deflects our own judgment, and recognize the fact that symptoms may contradict themselves without prejudicing matters either of pathology or treatment.

In 1883 a comparatively new method was applied to the study of uterine displacements, and which it was hoped by the authors and the medical public to settle, finally, the much discussed question, the part played by flexions, especially in pelvic diseases of women. The general gynecologist gains his knowledge by the study of women who seek his advice, and who are, therefore, more or less the subjects of diseased processes. Drs. Herman, in London, and Vedeler, of Christiania, conceived the idea of making a study of women who sought advice for other than uterine troubles, of those who did not, and, lastly, of those who did suffer from dysmenorrhœa. These observers have settled the question in their own minds, and in those of many writers and journal editors, that uterine flexions are without important symptoms, and play no part in the field of pelvic pathology. It is needless for us to analyze their statistics. A few remarks will serve to guard you against drawing too hasty conclusions upon the figures given by these authors. Vedeler goes into his subject without defining what he means by a uterine flexion. It is wrong to take for granted that we all mean the same thing. How important this is, one of his conclusions will show, namely, that the "prevailing position of the uterus is one of anteflexion." If he has included in his cases those of normal antecurvature, and that is what he must mean by "prevailing position," his statistics would amount to nothing in the opinion of any practical gynecologist. Until the approximate normal position and form of the uterus is settled in such a way that we may all observe and reason from a sort of common standard, statistics like those advanced by Vedeler will leave the question unsettled, and even worse than unsettled, for it is obscured by a mass of shadowy facts.

The statistics given by Herman upon the subject of dysmenorrhœa as a constant symptom attendant upon flexions are opposed by the same objection against it, while it is an experience common to us all to observe dysmenorrhœa exist in subjects free from changes in uterine form (just as we may, and often do, observe it in patients with a patulous os), and quite as frequently as stated by Herman. I would not allude to this matter at all, except that it has become quite the fashion to refer to both these authors by those, especially, who are opposed to the mechanical theory of uterine pathology. I do not hesitate to say that we must take up the subject as though these authors have never written, and earnestly endeavor to reach the truth that is concealed, rather than made obvious, in both the theories of mechanical and inflammatory uterine pathology.

In view of the importance of this subject, it will be attended by considerable advantage to study it carefully before lecturing upon those forms of uterine versions and flexions that find expression in pelvic or general symptoms.

The paradox that a generally admitted pathological condition may exist without subjective symptoms is one that finds frequent expression in the human body. It is not rare for the knife of the anatomist to reveal errors of structure unsuspected during life. But while we may admit this as a general proposition, it is difficult to concede it to an organ with such active and peculiar endowments as the uterus.

It is important that we examine carefully the condition under which a version or flexion of the uterus may exist without any assertion of itself by symptoms. And, first, What is the nature of the affirmative evidence upon this question? Very respectable authority, as one must admit. Kiwisch states that a slight degree of flexion causes no pain or disturbance, and when symptoms are present they are due to diseased changes in the parenchyma of the organ. Rigby says that symptoms are wholly wanting in many cases, and C. Mayer, that one would scarce suspect, by the symptoms in any case, a uterine error, while Velpeau remarks the same in certain women, and West is so confident of it, as a general thing, that he uses it as an argument in favor of the unimportance of other uterine disorders. Sommer holds the same opinion in instances of slight forms of the error. Rockwitz holds the same opinion as Velpeau, but explains it by the difference in the constitutional reaction of women, and Martin may be disposed of under this head also. Huguier and Säxinger believe there are no symptoms where the flexion is slight and the organ is small. Cazeaux may be classed under this opinion. Dubois states that flexions cause no symptoms, except as they may retard the exit of the menstrual secretion, and Chassaignac no symptoms, except such as may be induced by movements and concussions of the flexed organ. The more modern idea is expressed by Bennet, Depaul, Raciborsky, Tilt, Thomas, Meadows, and a large number of others, who believe that the symptoms of flexions depend upon the presence or absence of inflammatory complications. It is the old battle between the inflammatory and mechanical schools in gynecology. Hewitt, the great advocate of the mechanical school, is outspoken to the effect that flexions and versions of the uterus "constitute lesions of the greatest importance, and that they play a very considerable part in the production of the suffering to which women are liable." The "irritable uterus" of Gooch is, according to this last author, the simple evidence of the existence of a flexion. Priestley says that flexions of the unimpregnated uterus are productive of very "grave symptoms in very distant, as well as in near, parts." Hueter is equally positive in his evidence to the same effect. We shall make no attempt to reconcile the opinions of the conflicting factions in gynecology, but, by a careful examination of clinical facts, reach an idea of the conditions in which versions and lesions of the uterus may, or may not, be attended by symptoms.

In the first place, it is safe to premise that the performance of function in the uterus is necessary to the production of flexion-pain. Developmental flexions in young girls are usually discovered accidentally. The rhythmic occurrence of functional hyperæmia is necessary to produce congestion in a uterus essentially deformed. A developmental version or flexion up to the moment of functional life ought, therefore, to exist without subjective symptoms.

Advancing the subject of a developmental flexion to the stage of complete sexual evolution, there may yet be an absence of symptoms. This may be due to several causes. The uterus being of small size, it neither disturbs the bladder in front nor the rectum behind. The uterus and ovaries being defective as organs, and menstruation being correspondingly deficient as to time and quantity, symptoms of occlusion of the uterine canal are either slight or absent (Hueter); the organ being of this under-size, corporeal congestions, even causing increase in size and weight, are too slight to cause traction-pains upon uterine supports, or disturbance of near parts. In case of marriage, the condition of developmental flexion rarely escapes as a source of subjective symptoms. This social relation calls into play the whole sexual apparatus, a use as purely functional as that of menstruation; and as a flexed uterus existed negatively as to symptoms previous to the development of ovulation, and became a source of symptoms only as the organ developed its characteristic functions; so, in escaping the latter, many cases of this group of flexions do not create subjective symptoms until the whole sexual cycle of organs fulfil their functional life. We may remark of developmental flexions that exist dormant at one period of a woman's life, that it is no reason why they are not pathological.

We cannot agree with Emmet, that, providing no complication exists, mere position of the uterus is of little moment. They are of moment from the many possibilities of morbid reactions that exist potentially in the flexed uterus, and that are quite certain to spring into activity when the woman marries.

Many of these symptoms of the developmental flexion, it is true, depend upon hyperæmia and hyperæsthesia, but they are none the less flexion-symptoms for all that. It is not expected that a dislocated uterus will develop specific symptoms. Nobody, to-day, quotes Dr. West's controversial book on the insignificance of the ulcerative processes of the os uteri; and yet his arguments hold the same relation to the facts of that condition that those of later writers, who write to the same purpose, do to flexions and versions of the uterus.

It is more difficult to explain the absence of subjective symptoms in the acquired forms of flexion. There are, however, certain well-known conditions that may tend to this result. Detschy, in recent cases, and Säxinger, in long-standing instances of flexion, in which the uterus was not much enlarged, noticed absence of pain. This does not explain those long-standing cases in which the uterus is considerably enlarged, and in which there is no complaint. This phenomenon is explained by some as due to a slight development of the version or flexion (Kiwisch, Sommer, Säxinger); or, we have the theory of Rockwitz and Martin, that the sensibility, the reaction, and the possibility of becoming accustomed to the presence of version or flexion is different in various individuals. This may be, to a certain extent, an explanation, not only in relation to the subject under review, but to many other forms of uterine disease. It may be doubted if Hueter's objection, that he has seen instances of flexions in enlarged uteri in nervous and delicate women of the higher classes without pain, places any difficulties in the way of this theory. In fact, this is the very class of women in which we should expect such a result. It is safe to assume that in these cases of flexed uteri with hypertrophy, we have complicated with the flexion the products, if not the actual presence of inflammation. In such cases that exist with negative symptoms, the absence of inflammation cannot be assumed as a cause.

There is an explanation of this which has been hitherto overlooked. Many of these cases of quiescent flexions reach this state after a former period of activity, as centres of symptomatic disturbance. Reasoning from analogy the cause of this remission of symptoms is clear. The various tissue-components of the uterus have adjusted themselves to the changed relations existing in flexion of the organ. This is exclusive of any lessened reaction on the part of the system generally, which may, or may not, exist in any given case. As an illustration, take Hewitt's theory of "strangulation of the uterus." He assumes that the main blood-supply of the uterine body is from the arteries of the cervix, and were it not for small Fallopian branches of the spermatic artery, no blood would reach the fundus of the uterus in case of flexion. This corporeal strangulation would soon be compensated for by an increase in the volume of the collateral circulation. This is not speculation; the fact referred to is an underlying law of physiology. In case of nerve-fibres compressed at the flexed point, and in the stage of active subjective symptoms giving rise to neuralgia, the same law of adjustment applies. Connective-tissue absorption occurs in the flexed uterine wall, and the nerve-filaments thus released from pressure the pain is assuaged. Inflammation, so called, either as an accidental complication or as a result of the flexion, must, by the readjustment of the circulation and the lessened nerve irritation, undergo the same improvement. Meadows, who believes that inflammation is the "almost universal accompaniment of all cases of uterine flexions" that come under treatment, unconsciously to himself, perhaps, comes to the aid of the mechanical theory. He says "that when symptoms of flexion and inflammation coexist, the symptoms of flexion are due to mechanical causes and are clinically distinct."

Whether the pain that frequently attends flexions is due to neuralgia or to inflammation, cannot be a question of importance. It is impossible to exclude either as a factor. The theory of Kiwisch, afterwards revived and claimed by Scanzoni, that all symptoms in flexions are due to textural changes in the uterine body, or cavity, or to peritoneal inflammation, falls before clinical facts. Against this it is simply necessary to quote the objection of Picard that a flexed uterus, otherwise normal, may cause pain by obstructing the escape of menstrual secretion, or by interfering with the proper function of the rectum or bladder.

Hueter's theory is that flexions may or may not be productive of symptoms according as the flexed organ exerts traction upon the ligaments, the ligamenta vesico-uterina in retroflexion, or version and the ligamenta recto-uterina in the opposite form of displacements; the want of uniformity in the length of these ligaments permitting considerable latitude of movement in one case with consequent exemption from pain; and restricting slight movements in others with traction-pain as a result. Applying the theory still further, these cases of painful traction upon the ligaments may gradually become painless by extension and relaxation of the ligaments involved. Chassaignac partially supports this theory by explaining many of the flexion-pains as due to excessive mobility of the flexed uterus.

The cause of the absence or abatement of pain during menstruation, which is a phenomenon strongly urged by some as an evidence of the non-existence of flexion-symptoms, is explained by Squarey as due in case of atony of uterine tissue to the influx of blood to the organ, which partly straightens the axis and thus reduces the stricture that exists between the periods. This is a partial use of the theory of Rouget, that the uterus is an erectile organ under all circumstances from sexual excitement or menstruation. Emmet and others adopt this theory of Rouget, as formulated by him, to explain this condition of the flexed uterus in painless menstruation.

This theory of uterine erection explains the absence of dyspareunia in cases of retroflexion in which the most careful touch of the depressed uterine fundus by the exploring finger elicits severe pain, and yet the sexual act is both painless and satisfactory. The erection of the uterus during this act seems the only way to explain how the fundus of the organ gets beyond the intromitted penis.

In many of the etiological relations of flexions, we cannot conceive of them dissociated from inflammatory and other symptoms closely related to the pathogeny of the displacement.

By grouping versions and flexions of the uterus etiologically with reference to the leading symptom characteristic of each group, symptoms change their significance. The accompanying table is compiled from E. Martin's *Die Neigungen und Beugungen der Gebärmutter nach vorn und hinten*. Each group is assigned those subjective and objective symptoms which play a leading part in the morbid events.

By observing the table in the aggregate, that is, condensing the various groups into one phase of versions and flexions backwards or forwards, as they are generally noticed in the text-books, we may say that the symptoms of these displacements are dysmenorrhœa, sterility, impotency, dyspareunia, menorrhagia, metrorrhagia, sacral and hypogastric pain, dysuria, ischuria, constipation, a few unimportant abdominal and locomotor symptoms.

On the contrary, by observing the relations of these symptoms to a minute subdivision of these displacements into eleven groups, as in the table, the symptoms define contributive conditions rather than the flexions themselves. In this way we perceive the motive of each symptom.

Thus in the two groups of developmental versions and flexions B and E we find dysmenorrhœa, sterility, impotency, the remaining columns of symptoms being accidental conditions, even when rarely present. But, as we have already seen, we must regard the dysmenorrhœa as accidental also, since from the arrested evolution of the parts and the low grade of the menstrual activity, dysmenorrhœa is not present in the unmarried, except in those instances in which menstrual activity very nearly corresponds to the normal. Omitting this symptom, the sterility and impotency define the local conditions. We perceive in the physical *ensemble* the same impaired development, the same lowered grade of functional activity, that are found in the uterus.

Passing to the acquired forms of the displacements, we find the symptoms holding the same close relations to the etiological conditions. In the recent forms of acquired versions and flexions of puerperal origin, groups I and K, we observe that the first four columns of the table are blanks; then come persistent hemorrhage, marked inflammatory evidences, urinary symptoms, and locomotor lesions. In the older forms of these displacements, due to the same etiological conditions, groups C and D, these symptoms lose their intensity somewhat, and find local expression mainly through profuse menstruation and dysmenorrhœa; generalizing more broadly, in groups B and E, we find the functional factor prominent as the motive of the symptoms; in groups I and K the inflammatory factor assumes the leading part, and in groups A and L we have the mechanical factor.

There does not appear in this view of the subject any room for the old-standing conflict between the mechanical and inflammatory schools in gynecology.

But the question is a natural one: Is the fact that a uterus is flexed to have no bearing upon the subjective symptoms? So far as specific symptoms, the question may be answered in the negative. From this a false inference has quite generally been drawn, namely, if versions and flexions are without symptoms, then they can have no importance, and deserve no treatment. Nothing can be further from true science than such a conclusion. One might refer to numberless instances in which many abnormal conditions exist without subjective evidence, and yet call urgently for relief. One effect of the flexion, or version, is to complicate and prolong a morbid process, which, if it existed free from

CAUSES.	Menstrual Symptoms.	Sterility.	Abortion.	Impotency, Dyspareunia.	Hemorrhage.	Pain, Inflammation, etc.	Leucorrhœa.	Bladder Symptoms.	Rectal Symptoms.	Abdominal Symptoms.	**Locomotor Symptoms.**
A.—Anteversion and flexion, due to shrinkage in ligamentum rotundum, or in exudation on anterior uterine wall.	Scanty.	. .	. .	. .	. . .	Pain in groin and thighs.	. . .	. . .	Defecation difficult.	. . .	**Locomotion difficult from pain in thighs.**
B.—Anteflexion caused by arrest of development in anterior uterine wall.	Dysmenorrhœa in all; scanty, or long intervals.	Sterility.	. .	Impotency	Hemorrhage, 2 in 25.	Sacralgia common.	Accidental only.	Rare.	. . .	. . .	. . .
C.—Old anteflexion, due to defective involution of posterior uterine wall.	Profuse, frequent dysmenorrhœa.	. .	. .	. .	Menorrhagiaormetrorrhagia, 84 in 205.	Bearing down.	Frequent.	Dysuria frequent.	Constipation, hemorrhoids.	. . .	**Pseudoparaplegia in four cases.**
D.—Old retroflexion, due to defective involution of anterior wall.	Dysmenorrhœa not so frequent as in C.	. .	. .	. .	Menorrhagia.	Bearing down.	Mucous or purulent.	. . .	Hemorrhoids, rectal catarrh, constipation	Pain in epigastrium; meteorism.	**Lameness, from varicose veins, and pain.**
E.—Retroversion and flexion, due to defect in development, or contraction, in posterior uterine wall.	Dysmenorrhagia from beginning.	Sterility frequent	Abortion.	Impotency.	. . .	In 20 per cent. accidental kolpitis, endometritis.	Mucous or muco-pus in 10 per cent.	. . .	Constipation.	Vomiting during menstruation.	. . .
F.—Retroversion and flexion, due to contraction in ligamenta pubo-vesico-uterina, or anterior vaginal vault.	Dysmenorrhœa in multiparæ.	. .	. .	Dyspareunia.	. . .	Granular erosion of os externum.	Leucorrhœa.	Dysuria.	Tenesmus.	. . .	. . .
G.—Retroversion and flexion, due to contraction in ligamentum ovarii, or fixation.	Dysmenorrhœa common.	. .	. .	. .	Profuse.	Pain and tenderness of groin of same side.	. . .	. . .	. . .	. . .	**Difficult from pain and weakness in limbs**
H.—Anteversion and flexion, due to pressure on posterior uterine wall.	. . .	Sterility.	. .	. .	Persistent.	. . .	. . .	. . .	. . .	. . .	. . .
I.—Recent retroversion and flexion, due to defective involution of anterior wall.	. . .	. .	. .	. .	Persistent.	Sacralgia.	. . .	Dysuria, or retention, of sudden onset.	. . .	Hypogastric tenderness; meteorism.	**Difficult from œdema of limbs.**
K.—Old retroversion and flexion due to defective involution of anterior wall.	. . .	. .	. .	. .	Persistent.	Endometritis; weight in hypogastrium and in anterior part of thighs.	Ulcera puerperalia.	Dysuria; ischuria frequent.	Constipation, diarrhœa.	. . .	. . .
L.—Anteversion and flexion, due to shrinkage in ligamenta sacro-uterina, or exudation on anterior uterine wall.	. . .	. .	. .	. .	. . .	Sacralgia and pain in legs; worse during menstruation.	. . .	. . .	. . .	Bilious vomiting during menstruation.	**Difficult from pain.**

its complication, would tend to speedy recovery. Groups C, D, I, and K, without the flexion ought, from the nature of things, to recover spontaneously. They do not attain this end because the uterine conditions have resulted in organic changes in the form of the organ, the result of which is to prolong indefinitely the action of the morbid cause, defective involution. To correct the flexion or version, therefore, is simply to remove the obstacle that has stood in the way of a completion of the involution process.

In the event of another and very probable termination of a uterine flexion, that of complete tissue adjustment with subsidence of the subjective symptoms, it demands just as emphatically the attention of the gynecologist. In the first place, the flexion is the relic of a morbid process, and a perpetual menace to the health of the woman. From slight provocation, that without the displacement would pass harmless, the flexed organ may be the focus of a renewal of the morbid process.

One of the chief objections made against versions and flexions as a source of pelvic disturbance is the absence of dysmenorrhœa in those cases in which these variations of form and position are known to exist.

Yon will observe that in this whole lecture on the question of symptoms, we have been dealing with negative evidence. It is difficult to deal with questions of symptomatology when the proof is of this character. It is never a very clear clinical case in which we have to reason by exclusion. We might with perfect propriety reason in this manner as to causes in a given case of dysmenorrhœa; but it would be very bad logic to reverse this process, and upon it base a broad generalization as to the absence of this symptom in flexion. Now, as a matter of fact, these cases do occur, and by no means rarely. We have one group of flexions in which this is almost the rule during one period of the patient's life, namely, the developmental, previous to the completion of the functional life of the part, that is, before marriage, because we must regard the sexual relation as the final expression of the function of sex. In these cases we find function developed *pari passu* with structure. The uterus and ovaries are doing no more work than defective organs ought to do. Hence we have rather a delicate woman, but one who is meeting the demands of her functional life with comfort.

When, however, such a subject marries this state of affairs is reversed. Functional demands exceed structural ability, and my experience has been that at this stage in the life of these subjects the symptoms characteristic of flexions present themselves. This is the rule, of course there are exceptions.

We must seek other explanations for the absence of this symptom in the acquired form of flexion. It may characterize several conditions, which I shall briefly name. The flexion may have reached the stage of adjustment and the period of active symptoms passed. This adjustment I have already explained. The flexion of the organ, while objectively evident, may be of such a character as not to induce subjective menstrual symptoms. If one, like Herman, were massing statistics upon the absence of dysmenorrhœa in flexions, he would have to deny this, or claim that it was the rule. No one has yet taken either of these positions. But we know that dysmenorrhœa may be present at one period in a case of uterine flexion and absent at another period, and that, as a rule, the conditions of the patient remaining unchanged, these two periods are not interchangeable, the first period passing into the second. This may be a matter of adjustment, and it may be that the menstrual difficulty may have been dependent upon pelvic causes other than uterine; but, what I wish to bring out clearly is that the flexion itself, while it may be a centre of reflex nervous disturbance, may not impair the menstrual function of the uterus. First, it may not cause cervical obstruction, or, if so, the erection described by Rouget may rectify it; secondly, the endometrium may approximate a normal condition, and thus remove this source of menstrual disturbance; and, lastly, the near parts may in no way be affected. I believe we have all met with this class of uterine flexion. But a woman in this condition is constantly liable to sexual accidents, and while we would say that here we may do nothing, we should not forget that at any period during her functional life she may need our care for the very condition that at this period we are justified in overlooking.

The change in the symptomatic relations of versions and flexions due to the climacteric period of life is marked. It throws also some light on the conditions attending the non-symptomatic stage of flexions at the earlier periods of life. Sommer states that at the beginning of decrepitude the physiological activity of the uterus disappears, and with it the reflex evidence of flexion, although the original displacement continues. Rockwitz states that when the flexion continues to this age, and the functional activity of the uterus is lost, no further occasion is given for pain, and the displacement can no longer be regarded as a disease. As will be seen, this is too sweeping an assertion to make of a flexion at any time of life. Detschy and Picard reach the same conclusion with Rockwitch. Scanzoni holds that flexion of the uterus after the change of life is unimportant, since in consequence of senile atrophy the organ materially loses its volume; and that after the change, which is often accompanied by severe hemorrhage, the displacement is, as a rule, removed. The testimony of Dr. Head is to the same effect. Arlidge believes that the presence of a flexion tends to prolong unduly the menstrual life, and mentions a case of retroversion with hypertrophy of the uterine fundus in which menstruation continued to the sixty-fourth year.

Hueter, however, records cases in which the symptoms of flexions persisted after the completion of the climacteric. One case of four years after that event had severe gastric and sacral pain, and two others, old women, who had suffered many years from retroflexion, had severe and continued cephalalgia. He, therefore, concludes that not all the symptoms of versions and flexions necessarily disappear in advanced age; that many of them outlive menstruation, and that at the occurrence of senile atrophy only certain of the symptoms disappear. He also states that it is possible that flexion in old women may give occasion to a wholly new train of symptoms. These are the symptoms of hydrometra, a condition described as sometimes observed as a sequela of flexion at this period of life. These symptoms are, pain and tumor in the hypogastrium, and expulsive pain in consequence of uterine contraction, and as a result of this, in a uterus not wholly occluded, a quantity of secretion discharges from the vagina, and from the disturbance of nutrition, anæmia and hysteria may present themselves.

The following conclusions, based upon the above review, are offered as probable:

1. That there are no specific symptoms of versions or flexions of the uterus.

2. That versions and flexions previous to the advent of uterine function may be unattended by symptoms; that from the nature of these developmental errors symptoms may be wanting after menstruation, but deserve, nevertheless, to be regarded as pathological.

3. That acquired forms of versions and flexions, as a rule, are attended by symptoms; but owing to certain general and local conditions, namely, lessened systematic reaction and local adjustment of the tissue-components of the uterus to the changed relations of the version or flexion, these symptoms may disappear, the organic error remaining the same.

4. That on the cessation of menstruation, and the occurrence of senile atrophy, symptoms of the uterine displacement subside, the displacement persisting. The reverse of this is exceptional.

5. There being no specific symptoms of versions and

flexions, the symptoms defining these errors of the uterus depend, in common with many other uterine diseases, on disturbance of function of the uterus, of near parts, of the system generally, and that these disturbances may exist without symptoms of inflammation: that these inflammatory evidences may exist with those of displacement, either as co-results of common factors, or as pathogenetic of the uterine malposition, and that when these displacements and inflammations coexist, many of the flexion symptoms may be due to mechanical causes and are clinically distinct.

In the next lecture we shall analyze the subjective symptoms that characterize these changes in uterine form and position.

ORIGINAL ARTICLES.

SOME NOTES ON THE PATHOLOGY OF INTRANASAL INFLAMMATION.

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THE following notes are based mainly on the anatomical study, extending over a period of nearly three years, of a large number of inflammatory growths removed from different portions of the nasal chambers, and at all stages of the catarrhal process. The reflections therein embodied are not intended as full presentation of the subject, but simply as introductory to a future and more elaborate contribution, in which not only my own, but the observations of others will be recorded.

I. The changes found in common catarrhal inflammation of the nasal passages are pathologically separable into three distinct groups corresponding to the three clinical stages of the disease, viz., the simple inflammatory, the hypertrophic, and the atrophic.

The gross anatomical appearances of the first stage consist essentially in localized or diffuse infection, with moderate swelling of the tissues. This involves an increased irritability of these structures, which expresses itself in an abnormal excitability of the erectile tissue. This excessive irritability of the cavernous bodies is characteristic, and constitutes the central phenomenon around which the other symptoms of the stage are grouped, and from which many of them proceed, either from purely mechanical causes or as the result of reflex action.

There is very little, if any, swelling of the mucous membrane proper, the main condition being repeated engorgement of the erectile bodies. Portions of the mucous and underlying tissues removed with the snare bleed freely, are soft to the touch, can generally be flattened out with the finger, and, when thrown into alcohol, sink slowly to the bottom of the vessel. They are uniformly smooth in contour, and present, when first removed, a dark purplish and mottled look on the upper surface, while on the under aspect the peculiar spongy appearance of the lacerated and dilated erectile body can be distinctly made out. Under the microscope, the appearance which immediately strikes the eye is the enormously dilated and engorged condition of the erectile spaces and the extreme tenuity of their walls. The latter are often reduced to the merest shred, resembling the meshes of a delicate web. Occasionally, large, irregular spaces are observed, which doubtless result from rupture, either before or during the compression produced by the snare. In some cases small hemorrhages are discoverable in the submucous tissue. I have not met with any notable changes in the mucous membrane. The epithelial layer is usually intact, and, beyond perhaps a slight amount of cellular infiltration of the submucous tissues, there is nothing to call for special remark.

In the second, or hypertrophic stage, the gross appearances vary considerably. The growths, when removed, are either round or oval in contour, uniformly smooth or irregularly lobulated, or covered with little protuberances, giving them the appearance of a raspberry. Frequently, when the loop of the snare is disengaged from the hypertrophied tissue, a small shred or stem projects from the under surface of the latter, which, together with the smooth upper surface of the growth and its rounded, folded inward edges, presents a striking resemblance to a mushroom. The hypertrophies vary in color, from a dirty grayish or yellowish-gray, to a red, and even purplish hue. The color and density of the hypertrophy vary with its age. The older the growth, the paler the color and the harder the consistency.

Cross-section with a knife discloses often a peculiar *nutmeg appearance*, due to the interlacing fibrous bands and the dark brownish aspect of the blood in the erectile spaces. In other cases, this nutmeg appearance is not well marked, the whole tissue being converted into a dense, fibrous mass. These masses are incompressible, and sink immediately when thrown into the preserving fluid. They are sometimes covered with little granular or papillary projections.

The microscopical appearances vary. In all, the most remarkable is the conversion of the walls of the erectile spaces into dense fibrous bands, which, in contracting, obliterate more or less completely the erectile cells. These latter present numerous irregularities in outline, and, in those places where the fibrous change is most marked, contain very little, or are altogether destitute of blood. This fibrous process invades the submucous tissues, and converts them too into a fibrous mass in which their glandular elements disappear. The latter are apparently destroyed or obliterated, not only as the mechanical result of the contraction of the new-formed tissue, but also by cellular infiltration of the glandules themselves. The latter is of two kinds, an intra- and peri-acinal.

When the fibrous process is confined to the deeper layers, the epithelium is usually intact. When, however, the structures immediately under the basement membrane are invaded by the round-cell infiltration, the epithelial layer is notably thickened, often in an irregular manner. This thickening is most marked in the undulations of the free surface. Occasionally the epithelial proliferation assumes the form of distinct filamentous papillary growths, which are beautifully shown under the microscope.

In some places the epithelial cells are filled with a granular detritus, or are altogether wanting. The latter occurs when the fibrous process encroaches on the superficial layers and obliterates their blood supply. When this occurs, the epithelium may be entirely gone over a considerable extent of surface, nothing being left but the basement membrane. When all the layers are involved in the shrinking of the new-formed tissue, the surface of the growth is often thrown into small pear-shaped projections or knobs, which consist entirely of fibrous tissue. I am inclined to believe that these knobs may subsequently become detached and that this process of detachment may be one step in the future atrophy of the membrane. For, if the histories of certain cases of atrophic rhinitis be carefully taken, it will appear that, from time to time, there are found in the discharge from the nose during the hypertrophic stage, small nodular masses, which are described by the patients as "little pieces of flesh." They will affirm, furthermore, that, when this has occurred, the nostrils are perceptibly freer, and, encouraged by this false hope, which they take as an evidence of return to the healthy condition, they neglect treatment and go on to the atrophic stage. I have not met with any mention of this clinical fact in the writings of others, and am inclined to the opinion that the "pieces of flesh" are none other than these polypoid knobs of fibrous or papillomatous tissue, and that their expulsion may be regarded as an index of approaching tissue destruction.

Before leaving this brief consideration of the hypertrophic stage, I wish to call attention to an appearance which I have twice met with, viz., the obliteration of the lumen of the erectile spaces by masses of round cells which resemble the white corpuscular elements of the blood.

The transition of the first stage into the hypertrophic does not seem to me to depend necessarily upon the presence of constitutional disease, or vice of constitution, inherited or acquired. While it is true, that certain diathetic diseases predispose, other things being equal, to the development of this fibrous tissue in excess, the same takes place in the perfectly healthy, and in those who are free from the slightest trace of constitutional taint. In the hypertrophic erectile bodies which I have removed from syphilitic patients, the fibrous tissue was notably excessively developed, and that this disease predisposes to the subsequent atrophy of the tissue, I think there can be no doubt. It is indeed doubtless true that certain diathetic conditions, and especially the inherited form of syphilis, as well as certain imperfectly understood personal peculiarities, exert an important influence in the determination of the atrophic stage of rhinitis, but there is a form which, in the present state of our knowledge, is indicative of no particular dyscrasia, traceable to no particular vice of constitution, occurring in the healthy as well as in the badly nourished and cachectic, the clinical and histological history of which contains nothing to differentiate it from the atrophic stage of a simple catarrhal inflammation.

II. Is rhinitis ever *ab initio* atrophic? In the absence of direct histological proof of such an occurrence; in consideration of the rapidity with which, in some cases, the hypertrophic variety passes into the atrophic; in view of the many obvious difficulties in the way of certain historical data in its favor, and in the light of anatomical investigation, I think that for the present, at least, this question must be answered in the negative. The strongest argument in favor of the independent origin of the atrophic form is the alleged occurrence of ozæna in the newly born—that is to say, atrophic changes show themselves at a period too soon after birth to warrant the assumption of a preëxisting chronic catarrhal inflammation. It seems to me that this objection is sufficiently answered by the by no means violent assumption of the previous existence of an intrauterine catarrh.[1]

That atrophic rhinitis always appears as the sequel of a preëxisting catarrhal inflammation is rendered highly probable from a number of clinical and pathological facts. If the clinical history be accurately taken, it will point to a preëxisting catarrhal process. As has been indicated above, the rapidity with which the hypertrophic passes into the atrophic form of rhinitis is proportionate, in all probability, to the possession of some constitutional taint, such as the congenital or acquired form of syphilis. The early appearance of atrophy in some cases is dependent doubtless, too, upon certain modes of life and other conditions which influence the rate of progress in simple nasal inflammation in general. I have seen it also occur with rapidity after the profound impression made upon the nutrition of the parts as the result of acute systemic disease. If the patient be not under intelligent special observation from the outset, it may be difficult to establish with certainty the chronological relationship of the two stages; but so far as my observation goes, I have never been able to satisfy myself of the independent origin of the atrophic form.

In this connection, it is worthy to note, that the transition of hypertrophy into atrophy does not necessarily imply the existence of ozæna. I now and then see cases in which the most widespread atrophy has occurred, and in which the capacity of the nasal chambers is greatly increased, in which no odor can be detected, and I have removed portions of membrane from the nose which showed under the microscope marked atrophic changes, in which no symptoms of ozæna, strictly speaking, were present.

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[1] In this way, too, doubtless arise other affections of the nasal passages and throat which are supposed to date their first appearance from or during the birth of the child. To digress still further. It has always appeared to me, that the so-called purulent coryza or catarrh of the newly born, when not the result of gonorrhœal inoculation, may have a similar origin, and does not, as Weber, Fraenkel, and others maintain, arise from infection through the leucorrhœal discharge of the mother. While not absolutely denying the possibility of such an occurrence in certain exceptional cases, I am rather inclined to regard it in the same light that I would the time-honored asseveration of the unfortunate who is absolutely certain that he contracted his clap from "a woman with the whites." It is highly improbable that either a simple leucorrhœal or lochial discharge has the power of exciting a purulent inflammation of the nasal passages, and were experiments made to determine this point, they would probably give the negative result which followed Zweifel's experiments on the conjunctiva with the lochial discharge. Moreover, the nostrils of the child are naturally more or less protected by the mucous secretions of the maternal passages, which, in turn, would serve to dilute to a great extent, should such exist, the irritative qualities of the leucorrhœal matter. In the absence, therefore, of gonorrhœa in the mother, it is more probable that the disease originates at some period of intrauterine life, and not during the transit of the child through the maternal passages. The only argument in favor of Fraenkel's view is the obviously insufficient one, that in such cases the existence of leucorrhœa in the mother may be demonstrated.

How is the fact to be explained, that in some cases in which extensive atrophy has occurred there is an absence of the characteristic odor of ozæna, while in others (exclusive, of course, of preëxisting disease of the accessory sinuses) in which the destruction is less extensive, there is pronounced fetor? It is insufficient here to urge the operation of *ab extra* influences, or the theory of simple decomposition. Does not the presence of the peculiar odor depend rather upon agencies operating within the organism than upon those which approach from without? In other words, is not the atrophy that results from simple inflammation less liable, other things being equal, to give rise to the characteristic stench than that which depends upon constitutional causes?[1]

The pathological history of "ozæna" is, moreover, that of the conversion of hypertrophic changes into those of an atrophic form. In the rhinoscopic image, in the microscopic section, the processes of hypertrophy and atrophy are found side by side. More than that; the atrophic changes are more pronounced in situations in which the catarrhal inflammation originally developed. Thus, for example, if the disease originate as a catarrh of the maxillary sinus, the atrophy is more pronounced in the latter situation, the nasal mucous membrane proper presenting evidences of simple or hypertrophic catarrhal inflammation. If, on the other hand, the disease commence in the nasal fossæ, the morbid condition of the sinus, if such exist, is that of simple or hypertrophic inflammation. Finally, as the hypertrophic variety almost invariably commences in the respiratory portion of the nostril, so in the atrophic form, the region of the inferior meatus, the classical seat of atrophy, is the first to be destroyed.

Weighty evidence in support of the position that atrophy is always preceded by catarrhal inflammation, is furnished by the microscope. Here the processes are either found side by side in the section, or portions of the membrane show signs of atrophy, whilst in others, where the process is less advanced, hypertrophic changes are discovered.

I have never had the opportunity of a thorough post-mortem examination of a case of ozæna, but I have found the essential changes described by others—the process of contraction, destruction of glandulæ, etc., in the hypertrophic membrane removed with the snare—a condition of *turbinated cirrhosis*, so to speak, so that I am forced to regard this atrophy of the membrane, which may with propriety be called *rhinitis cirrhotica*, as the sequel of a preëxisting hypertrophic condition. At no stage of the catarrhal or atrophic process have I ever met with ulceration.

III. In this country, the changes in the common catarrhal affections of the nose are most marked in the area covered by erectile tissue, and are more pronounced in the lower or respiratory region, in the bony nostril than in the vestibule, and in the posterior more frequently than the anterior portions of the nasal fossæ.

These changes have their starting-point in one or more of three different structures, the erectile tissue, the mucous membrane, and, perhaps, the periosteum. The erectile tissue is primarily involved, probably, in those cases in which catarrhal conditions are met with as the result of reflected irritation (doubtless through vaso-motor influences operating, in the first instance, through the constant or repeated erection of that tissue, with subsequent development of trophic disturbances), and it is conceivable that the same result may be brought about through obstruction or other derangements in the local or systemic circulation; in fine, from any cause that does not act as a direct irritant to the mucous membrane. Even in the latter case, the local irritant may, and does in some cases, bring about a similar result through reflex action. A more or less constant dilatation of the erectile cells is thus brought about, which, if kept up, will eventuate, sooner or later, in a paralytic or subparalytic state of the resilient and contractile elements of the intercellular connective-tissue walls.

In another class of case, the process starts from the superficial layers of the mucous membrane, through the irritation produced by foreign substances, the lesions of acute and chronic constitutional or systemic diseases, either through direct infection or through vitiation of the general circulation, and the consequent changes in the nutrition of the mucous membranes. Even in this class, there is always more or less secondary erection of the cavernous tissue.

There is still a third class in which it is probable that the changes in the erectile tissue are secondary to hyperplastic conditions of the perichondrium, as, for example, in the hard dense hypertrophies met with in syphilitic subjects.

Wherever originating, the erectile bodies become sooner or later involved, and the subsequent changes which they undergo constitute the characteristic feature of acute and chronic nasal inflammation. This is the distinguishing mark between it and other inflammatory conditions of the mucous membrane of the respiratory tract, and it furnishes the rational guide to the management of these affections. I wish to emphasize this fact, for it marks an era in nasal therapeutics. That it is not fully appreciated, is evident from the fact that authority often sanctions the use of methods, the inevitable tendency of which is to bring about results directly opposite to those they are intended to accomplish.

UNIQUE CASE OF ABDOMINAL INJURY.

By W. L. ESTES, M.D.,

SUPERINTENDENT OF ST. LUKE'S HOSPITAL, SOUTH BETHLEHEM, PENN.

THE following case is so unique in its occurrence and the comparatively few bad immediate symptoms, that the reporter deems it worthy of record, and trusts the readers of THE MEDICAL NEWS will find it interesting, and, perhaps, affording a few points for profitable reflection:

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[1] I have shown elsewhere (Congenital Syphilis of the Throat, Amer. Journ. of the Med. Sci., Oct. 1880) that the deeper naso-pharyngeal lesions of congenital syphilis are found more frequently among females, a fact which may partially explain the common occurrence of ozæna among young girls at or near the age of puberty.

J. D., a student, aged eighteen years, a well-developed young man—indeed, considered "one of the best general athletes in college," was practising what is known as the "window jump," which is an effort to go through a circumscribed square some three or four feet from the floor, by flexing the limbs on the trunk while in the act of springing. In the instance in question, the square was formed on either side by two vertical standards of pretty stout scantling; above by a cord with weights at either end, hung on two pegs inserted into the two standards respectively; the lower side was unfortunately, this time, made by putting a hexagonal pine stick across, and simply resting it on two pegs similar to those above. In attempting to spring through this square with an altitude, I think, of twenty-six inches, the young man struck the stick with his foot, knocked it in front of him, evidently landed on it as he came down upon the floor on the other side, split it in two, turned one fragment endwise up, and *impaled himself on this fragment.* Instead of falling over unconscious and dying, as one would naturally suppose, this young Spartan did not even lose his footing, but clutching the end of the fragment which projected, called upon the director of the gymnasium for assistance. The latter, being within a few feet of him at the time, came, with a number of the students, immediately to his assistance. First of all they laid him on one of the gymnasium mattresses, and the director tried to remove the stick; finding it very fast, however, he at once summoned me, who, by the merest chance, happened to be in the office of the gymnasium at the time. In a few seconds after the occurrence I arrived upon the scene, and found the end of the stick projecting about an inch from the upper part of the left side of the scrotum, tending upwards, and to the right, passing through Gimbernat's ligament, grazing the pubes, and barely missing the spermatic cord, which it pushed upwards. Though pale, the sufferer had a pretty strong pulse, not very rapid, and was perfectly conscious. I immediately began to withdraw very slowly, and with pauses, what soon appeared the almost interminable piece of stick, until the whole fragment was removed. *It was just ten inches long,* and as one inch projected, *nine inches had entered the abdominal cavity.* As I said before, the stick was a hexagonal piece of pine, and originally measured just one inch across, but the fragment had been split to a sort of irregular conical shape, the base measuring 1 x ¾ inch, while the apex was 1 x ½ inch, and very jagged at the end which was within. The removal was followed by no hemorrhage, or protrusion of intestine or fecal matter. The fragment, carefully investigated by sight and smell, also failed to show any evidence of fecal contamination. A small shred of fascia, which projected from the small, not very ragged wound, was ligated with catgut and cut off. After waiting a short time, carefully compressing the wound with a clean handkerchief, no hemorrhage, intestine, or feces appearing, and the pulse becoming fuller and stronger, I decided to close the wound at once. Accordingly, I united the edges with carbolized catgut interrupted sutures, again put on the handkerchief compress, and secured it by a figure-of-eight bandage improvised of towels tied together. The young man now complained of great pain in his right lumbar region, which, upon investigation, proved to be caused by a *second fragment of stick,* one end of which was just under the skin, and the other embedded in the muscles, perhaps extending into the peritoneal cavity. It was clear that the stick had traversed the whole lower part of the abdominal cavity from left to right, and had broken off; one fragment had been removed as related, another remained in the lumbar muscles. Brandy and one-fourth grain morphine were given by mouth, and an ambulance summoned. Upon the arrival of the ambulance the young man, at his own request, was taken to the hospital. His father and family physician being summoned, arrived soon after he was placed in the operating-room at the hospital. The condition of affairs being explained to them, they readily agreed in the proposition to anæsthetize the patient at once, and remove the piece of stick from the lumbar region. This was accordingly done. The fragment was four inches to the right of the vertebral column, and three inches above the crest of the ilium. The incision was about two inches long, and the piece was with some difficulty extracted by means of lion-jaw forceps. All splinters were carefully sought for and removed.[1] After the removal of the fragment, the finger following along the channel of exit entered the peritoneal cavity below the lower border of the liver. This fragment measured 4¼ *inches* long, 1 inch broad, and ½ inch thick at its point. So that the whole fragment when put together measured 14¼ *inches,* 13¼ *inches of which had been driven into the peritoneal cavity,* traversing the abdomen as described.

The accident occurred at about 5.15 P. M., the patient arrived at the hospital about 6 P. M.; at 7 P. M. the second piece of stick was removed; at 8 P. M. the patient was sleeping quietly, having reacted entirely from ether, but still under the effect of morphine administered just before anæsthesia was commenced. Pulse 80, full, quiet and strong. Surface warm and moist. At 11 P. M. still sleeping, pulse 80, respiration 22, slight perspiration. In order to be sure of no injury to the bladder, the patient was now catheterized. One ounce of clear, limpid urine was withdrawn. During the first forty-eight hours he had a temperature of 99° F. to 101° F. In the afternoon of second day evidences of a localized peritonitis set in, which were easily controlled by morphine given hypodermatically and in very moderate doses. His food was milk and lime-water in small quantities, repeated every two hours. On the third day was quite bright, and complained of scarcely any pain, but had considerable nausea and had vomited a number of times in the last twelve hours. Tympanites not marked, pulse 98, temp. 100°. The bandages on scrotal wound being loose they were changed, when it was found that the wound had healed per primam, without a drop of pus. Compress of carbolized cotton-wool applied and figure-of-eight bandage. Fourth day, patient very restless and irritable, though he expressed a desire for food for the first time. Pulse 100, temp. 99.4°. In the evening of this day pulse ran up to 118, but temperature was only 100°. Was still very restless, no pain, nor any marked tenderness over abdomen. Fifth day, patient's irritability and restlessness increased. Repeated hypodermics of morphia scarcely affected him. At 9 A. M. while I was standing by his bedside he had a sudden collapse, became pulseless and gasping, with cyanosis, and cold extremities. By stimulants hypodermically, and warm application rallied somewhat, but remained with scarcely any pulse, and wild delirium most of the time until 7.45 P. M., when he died.

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[1] This wound was carefully syringed with a 1 to 1000 solution of bichloride of mercury, left open, and a dressing of iodoformized sublimate gauze applied. At this time the scrotal wound was also inspected. There had been no hemorrhage, no ecchymosis, no puffiness or œdema about the lips; so that it was also carefully disinfected, and dressed as the other one had been, stitches remaining *in situ.*

Autopsy, twelve hours after death. The wound in the scrotum united, that of lumbar region very much contracted (had been left open) and covered by lymph. No evidence of suppuration. Upon cutting into the abdominal cavity there was an immediate escape of very offensive gas and dark green fluid having a fecal odor. Peritoneum adherent generally, and everywhere congested. Pus exuded from the greater omentum, which had several ragged lacerations. In the umbilical region the parietal peritoneum and greater omentum were sloughing at numerous small points. In the left iliac region, just to the left of the median line in its beginning, was a canal formed by adhesions of the coils of the ileum to the abdominal parietes and extended downwards and outwards to the crest of the pubis, where the stick had entered the abdomen. This canal was full of thick pus. The coils of the ileum had been lacerated in twenty or thirty places, the lacerations varying in size but nowhere exceeding a quarter of an inch in length. In nearly every instance only the peritoneal and external muscular coats were involved. At two or three places, and these were the largest, the lacerations had involved all the coats but the mucous. Two of these little wounds had sloughed through, and thus the fecal extravasation. The course of the stick had been from the crest of the ilium upwards, just missing the bladder, which was probably empty at the time, crossing the spinal column just above the bifurcation of the left iliac arteries, passed through the mesentery and through, or among the coils of small intestines, probably pushing them backwards and upwards; just over the ascending colon, grazed the right lobe of the liver and gall-bladder, and found its exit at the place specified. Death had occurred from fecal extravasation into the peritoneal cavity, and the perforation of the intestine had doubtless occurred by breaking down of the mucous membrane at two of the places where the other coats had been torn through by the stick, and this rupture had most probably occurred only the morning before death. Besides the most unheard-of manner of the accident, the case appears particularly interesting in the fact that at the time of the occurrence the intestines were not perforated, and the late appearance of any alarmingly bad symptoms. Until the end of the fourth day the pulse and temperature varied very little from the normal rate; there was some vomiting, it is true, but no marked tenderness, or tympanites or pain, notwithstanding the fact that he received only about 0.06 gramme of morph. sulph. in any period of twenty-four hours, until the last.

In light of the experience and teachings of modern surgeons, some will perhaps ask, Why—immediately after the accident—was not the abdominal cavity opened, and the lacerations sought for and sutured? This was exactly the course which occurred to me as soon as I saw the nature of the injury, and diligently was any sign or symptom sought for, which might lead to a suspicion of present or immediately impending rupture. None was noticed. The condition of the young man was amazingly good after the removal of both fragments, so I reasoned, though the intestines must of a necessity have been injured, these must indeed be multiple, perhaps a large number of small lacerations, yet none of these has actually perforated into the intestine. It is barely possible by perfect quiet to give these various small lacerations a chance to adhere either to the abdominal walls or to neighboring coils of intestines and so close the rents. If, on the contrary, the abdomen be opened and an attempt be made to suture the lacerations, there may be perhaps twenty places to stitch up, and certainly the danger from suturing at so many places is greater—in addition to the extra wound required through the abdominal walls—than that of attempting to help Nature close the little wounds. The event proved that the ilium had been so badly contused, that had all the lacerations been sewed up, and granting the aggregate stitching had not closed the lumen of the gut, nor been followed by fatal shock or peritonitis, still the walls would almost inevitably have sloughed in two other places having no apparent laceration. I believe the pus found in the canal before mentioned, to be due, not so much to septic particles introduced on the sticks, as to autoinfection from the sloughing intestines and omentum. The wounds outside of the abdominal cavity were perfectly aseptic (that of the scrotum had already united).

STATISTICAL ACCOUNT OF THE CAPITAL AMPUTATIONS

PERFORMED AT THE WESTERN PENNSYLVANIA HOSPITAL FROM JANUARY, 1877, TO JANUARY, 1884.

Compiled by WM. H. MERCUR, M.D., and
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RESIDENT PHYSICIANS OF THE WESTERN PENNSYLVANIA HOSPITAL,
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THE number of major amputations performed at the Western Pennsylvania Hospital in the year ending December 31, 1883, is believed to be greater than in any other hospital in the United States which publishes records of its cases.

The results of these amputations have never been given to the profession in detail, and, with this end in view, tables have been prepared from which the following summaries have been taken. In regard to the mortality, the character of the amputations must be borne in mind. By far the largest number were performed for railroad injuries and injuries due to machinery, etc., where the soft parts were as seriously injured as the bones, and the concomitants of shock, loss of blood, etc., were important factors in causing death.

Table showing the number of Various Amputations and their Results. From January, 1877, to January, 1884.

Part Amputated.	Primary.	Secondary.	Died.	Cured.	Percentage of Mortality.	
Thigh, ...	15	2	10	7	$58\frac{14}{17}$	Percent. of all single amput'ns, $21\frac{3}{137}$.
Knee-joint, ...	5	2	2	5	$28\frac{4}{7}$	
Leg, ...	50	14	12	52	$18\frac{3}{4}$	
Part of foot,[1]	20	8	3	25	$10\frac{5}{7}$	
Shoulder-joint, ...	4		3	1	75	
Arm, ...	19	4	1	22	$4\frac{8}{23}$	
Forearm, ...	9	3	2	10	$16\frac{2}{3}$	
Part of hand, ...	2			2	0	
Both thighs, ...	4		3	1	75	Perc't. of all double amput'ns, $53\frac{4}{7}$.
Both legs, ...	15	1	11	5	$68\frac{3}{4}$	
Leg and part of foot, . . .	3			3	0	
Leg and knee joint, ...	2			2	0	
Thigh and leg, ...	1			1	0	
Arm and forearm, ...	1		1		100	
Arm and hand, ...	1			1	0	
Total, ...	151	34	48	137	$25\frac{35}{37}$	

From the above table it will be seen that from January 1, 1877, to January 1, 1884, a period of seven years, there were 185 cases of capital amputations, of this number 128 were for railroad injuries. One hundred and thirty-seven of the above cases were cured, and 48 died, a mortality of $25\frac{35}{37}$ per cent. Of these 48 deaths, 13 occurred within 24 hours, and 8 within 48 hours. Deducting, therefore, these necessarily fatal cases from the total number of amputations, leaves a mortality of $19\frac{97}{187}$ per cent. One hundred and fifty-one of these cases were primary, and 34 secondary; the mortality of the primary was $29\frac{21}{151}$ per cent., of the secondary $11\frac{13}{17}$ per cent.

There were 28 double amputations, all of which, except one, were performed for severe railroad injuries; 15 of the above died, and 13 recovered, an ostensible mortality of $53\frac{4}{7}$ per cent. The fact that out of these 15 deaths eight died within 24 hours, (over 50 per cent.) and three within 48 hours, shows that death was due to the injury rather than to the amputation. Of the remaining four, three died from pyæmia, and one from gangrene of the stumps. The above statement reduces the mortality for double amputations from $53\frac{4}{7}$ per cent. to $15\frac{5}{19}$ per cent.

The number of single amputations was 157, of which 33 died, and 124 recovered, a mortality of $21\frac{3}{157}$ per cent. Of part of foot amputations 14 were Syme's, with 2 deaths;[2] two Chopart's, with no deaths; six Hey's, with no deaths; three Pirogoff's, with no deaths; two Lisfranc's, with one death;[3] and the remainder through metatarsal bones, with no deaths.

The following table shows the increase in number of amputations from year to year:

Year.	Amputations.	Percentage of increase.	Percentage of decrease.
1877, ...	8	. . . . . .	. . . . . .
1878, ...	13	$62\frac{1}{2}$ per cent.	. . . . . .
1879, ...	16	$23\frac{1}{13}$ "	. . . . . .
1880, ...	14	. . . . . .	$12\frac{1}{2}$ per cent.
1881, ...	36	$157\frac{1}{7}$ per cent.	. . . . . .
1882, ...	46	$27\frac{7}{9}$ "	. . . . . .
1883, ...	52	$13\frac{1}{23}$ "	. . . . . .

The percentage of increase of 1883 over 1877 was 550 per cent.

The following table shows the death-rate for each year:

Year.	Cured.	Died.	Mortality.
1877, ...	7	1	$12\frac{1}{2}$ per cent.
1878, ...	11	2	$15\frac{5}{13}$ "
1879, ...	12	4	25 "
1880, ...	9	5	$35\frac{5}{7}$ "
1881, ...	25	11	$30\frac{5}{9}$ "
1882, ...	32	14	$30\frac{10}{23}$ "
1883, ...	41	11	$21\frac{2}{13}$ "
Total, ...	137	48	$25\frac{35}{37}$ "

HOSPITAL NOTES.

CLINICAL OBSERVATIONS IN THE OPHTHALMIC HOSPITALS OF LONDON.

Reported by L. Webster Fox, M.D.,
of Philadelphia.

THE WEALTH OF CLINICAL MATERIAL AT MOORFIELDS.

From advance sheets of the annual report of the Royal London Ophthalmic Hospital for last year, we find that the one hundred beds of the hospital have been occupied by 1988 in-patients, and the operations performed by the surgical staff number 3425. The staff of surgical officers have, during the same time, advised and prescribed for 24,238 persons as out-patients, their attendance having been 121,190, or an average of 384 on each weekday. It cannot be otherwise but that this large gathering of clinical material presents a fund for observation and study not to be found elsewhere.

We have been informed that a systematic course of instruction will ere long be inaugurated by several members of the staff. This will draw many students to its walls who, up to the present, have been obliged to go to the continent for instruction in ophthalmology.

THE OPERATIVE TREATMENT OF CATARACT.

The number of cataract operations performed last year was 448; over one-half were extraction by Graefe's method (generally modified). The results obtained—which in the larger number of cases were good—proved that more depended upon the skill of the operator, the physical condition of the patient, and after-treatment, than upon the method adopted. The staff seem to be divided in their opinion as to whether it is safer to perform a preliminary iridectomy in cataract or not. Statistics up to the present give no preference to either method.

Partial antiseptic treatment is carried out in cataract operations. The eye of the patient is bathed carefully three times daily with a solution of boracic acid—grs. iij–℥j—two or three days preceding the operation. All instruments used are cleansed in a solution of carbolic acid, one in twenty, or absolute alcohol. After the operation, the eyelids are carefully anointed with vaseline containing one to two grains of sulphate of atropia. Antiseptic cotton and bandages are applied, and are not interfered with for twenty-four hours. At this time, the face is bathed with tepid water, and clean bandages are applied. An examination of the eye is not usually made before the eighth day, unless the patient complains of itching and burning sensations in the eye or underneath the eyelid—precursors of iritis. Then the eyelids are carefully elevated, to apply more directly the atropia solution. If pain continues, from four to six leeches are applied to the temple, with the internal administration of mercury, combined with opium.

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[1] Part of foot includes only Syme, Chopart, Hey, Pirogoff, Lisfranc, and through metatarsal bones amputations.

[2] One death due to internal injuries, and the other to gangrene.

[3] Complicated with severe internal injuries.

CRITCHETT'S OPERATION FOR STRABISMUS

(subconjunctival) is still the favorite one among the older members of the staff. The younger members prefer Graefe's method, on account of exposing the muscle, thereby making certain of a thorough division. A full correction under atropia for the existing hypermetropia is given. Messrs. Lawson and Couper both report favorable results in the partial restoration of vision in amblyopic eyes after squint, by putting the defective eye through retinal gymnastics. The younger the patient, the more favorable the results.

BURROW'S OPERATION FOR ENTROPION AND TRICHIASIS

is the favorite, although recently Watson's operation, modified, has met with much favor. Burrow's operation is thus performed: The lid is everted, and, a horn spatula having been placed between the globe and the lid, an incision is made completely through the tarsal cartilage, about one or one and a half lines from its free border, along the white line always found underneath the lid, and extending from the outer to the inner extremity of the tarsal cartilage, taking care to sever thoroughly the cartilage and all the structures of the lid up to the skin, but not to cut the ciliary margin at any point.

Watson's operation is transplanting the cilia to a point two millimetres above their normal line, and transposing a piece of skin in their place. This skin prevents the lashes from turning downwards, and does not destroy their usefulness.

Van Milligan's operation is splitting the tarsal edge of the lid, and transplanting a piece of mucous tissue taken from the lip.

AN IMPROVEMENT OF BULLER'S SHIELD.

MR. HUDSON, house surgeon, has improved Buller's shield, which is used to protect an eye from its neighbor suffering from an infectious discharge. The shield is made of thin rubber cloth, four by four inches, into the centre of which a small watch-crystal is stitched; this shield is then appended, by thin gauze and collodion, over the healthy eye, the glass crystal allowing the patient to see. On account of the eye being encased in an air-tight chamber, much inconvenience was experienced by the patient; this has been obviated by the insertion of a thin piece of rubber tubing into the air chamber on the nasal side; the mouth of the tube is fastened to the temple; this allows a free circulation of air about the eye.

PURULENT CONJUNCTIVITIS

is treated by constant applications of carbolic acid solution, one in twenty, and a daily application of arg. nit. grs. x to xx.

PECULIARITIES OF PRACTICE AT THE CENTRAL LONDON OPHTHALMIC HOSPITAL.

MR. CHARNLEY is using successfully a narrow Graefe's knife (1 mm.) instead of stop needles in the discission of the capsule after cataract operations. The degenerated tissue in ulcers of the cornea is scraped away with a small scoop devised for the purpose. Ulcer rodens, ramolissement of the cornea, marginal and trephined ulcers seem to respond rapidly to this treatment. In granular lids, with pannus of the cornea, the jequirity treatment has proved satisfactory, although Mr. Lang, of the Middlesex Hospital, has had several cases develop ulcers of the cornea while under treatment. His results have not been so successful as those of other investigators. Hydrochlorate of quinia—grs. ij–℥j—as an eye-lotion for acute conjunctivitis and catarrhal ophthalmia has many advocates.

TREATMENT OF CONICAL CORNEA AT THE ROYAL SOUTH LONDON HOSPITAL.

MR. A. STANFORD MORTON has recently operated upon a case of conical cornea by the *vertical* incision, a method which he has adopted.

Salina S., æt. 35. History of increasing myopia for ten years. Conical cornea in each eye; the left more prominent than the right; apex of cone opposite centre of pupil. Vision in each eye barely $\frac{20}{\text{CC}}$. R. E., J. $\frac{1}{2''}$; L. E., J. $\frac{2}{2''}$; distant vision improved to $\frac{20}{\text{L}}$ (both eyes), with sph. —5 D. The left eye being the worse, it was operated upon under an anæsthetic. A narrow linear Graefe's knife was used to transfix the apex of the cone from above downwards, passing through the anterior chamber, and leaving about four millimetres between the puncture and counterpuncture. The knife, with its back to the iris, and its edge turned forwards, at an angle of about thirty degrees with the vertical plane, was then made to cut outwards, dividing the cornea. The edge of the flap thus formed was seized with a pair of fine forceps, raised up, and cut off by passing the knife from behind forwards, at a similar angle to that used in cutting out in the first incision; an elliptical, vertical piece of cornea was thus removed. Atropia solution—grs. iv–℥j—was applied to keep the iris from becoming engaged in the wound, and the eye firmly tied up. The eye was not molested other than to apply atropia and change the bandage. In a little over a fortnight, the aqueous was retained. The leucoma left by the operation gradually disappeared, until vision improved to J. $\frac{1}{12''}$ at $\frac{20}{\text{XL}}$, with hypermetropia of 2 D., which, when corrected, gave $\frac{20}{\text{XX}}$, or perfect vision. After some time, the right eye was operated upon in a similar manner, without benefit; but upon a repetition of the operation, vision was finally J. $\frac{1}{14''}$, and $\frac{20}{xxx}$, partly with the necessary correction of sph. + 2 = cyl + 2.50 cx 90°. We were shown the patient, and the operation was highly successful. There is no claim of novelty in this operation; but its value is demonstrated by the high myopia being replaced by hypermetropia of two dioptrics.

At this hospital,

RETINOSCOPY

finds its ablest demonstrator. Mr. Morton was the first to render this subject intelligent to the English-reading student in his small work on "Refraction." Its practical application is as follows: Place the lamp immediately over the patient's head, and yourself about four feet from the patient; then let him look at the small aperture in the mirror of your ophthalmoscope, which is held before your eye (an eight-inch-focus mirror is the best, and patient's pupils should be dilated with atropia or homatropia, to make an accurate diagnosis). Now rotate the mirror from side to side, and observe the shadow on the patient's fundus oculi; if it follows the direction of the mirror, the eye is myopic; if in the opposite direction, the eye is hypermetropic. In compound hypermetropic astigmatism, we have a more pronounced shadow in our meridian than in the opposite; same in compound myopic astigmatism. In mixed astigmatism, the shadow moves with the mirror in the myopic meridian, the opposite in the hypermetropic meridian. To ascertain the amount of error, place a trial spectacle-frame on the patient's nose, and place in it concave or convex glasses, in an ascending or descending series, until the shadow either ceases to be perceived or moves in a reverse direction. In the latter case, the defect has been overcorrected, and a weaker glass must be substituted until the shadow again becomes ill-defined. The patient is now made emmetropic. The number of glass before his eye is the measure of his refraction to probably within a quarter of a dioptric. By examining the two meridians of the eye in the same way, the amount and angle of astigmatism can be ascertained.

MEDICAL PROGRESS.

The Changes in the Nervous Apparatus of the Intestinal Wall in Pernicious Anæmia and General Atrophy.—Sasaki (*Virchow's Archiv*, Bd. xcvi. Hft. 2, 1884) believes that the gastro-intestinal form of pernicious anæmia, depends upon anatomical lesions of the nervous structure of the intestinal tract. In one case of this kind he found sclerosis of the ganglion cells, with subsequent destruction of them, decrease in size of the nerve-fibres, and very many bright homogeneous bodies of hyaline character, in Auerback's and Meissner's plexuses. In another case fatty degeneration had taken place, extending to the muscles.

In localized affections of the intestines, as typhoid fever, catarrh, etc., a similar degeneration was found in many cases, but it was limited to the vicinity of the diseased portion of the intestine. Sasaki believes, therefore, that neurotic atrophy of the whole intestinal tract lies at the bottom of these conditions, and causes the general disturbances of nutrition.—*Centralbl. für klin. Med.*, August 9, 1884.

The Electrical Reaction of the Optic Nerve as a Means of Diagnosis between Simple Amblyopia and Optic Nerve Atrophy.—Darrier has recently reported the results of his experiments with the galvanic reaction of light as a diagnostic means between simple (especially toxic, congenital, hysterical) amblyopia and degenerative atrophy of the optic nerve. For this purpose he uses a small battery of 8 or 9 elements, and a conductor sensitive to $\frac{1}{10}$ milliampère; the positive pole, a small plate, is placed in the middle of the forehead, equidistant from each eye, and held in place by a rubber band; the negative pole, olive-shaped, is placed on the upper and outer segment of the eye which is to be irritated, and is supported by the wall of the orbit.

Darrier first used a current from several elements, which caused distinct flashes of light (reaction R_1); and then gradually reduces the current until it is not felt by the skin, and only causes weak flashes of light at the *closure* of the circuit, none at the opening (reaction R_2); the second reaction is the important one, and never, with healthy persons, requires more than $\frac{1}{10}$ milliampère, or a current of 1–2 elements, and is sufficient in cases of simple amblyopia; but in atrophy of the optic nerve, sclerosis in connection with disease of the cord, neuritic, hemorrhagic, or embolic atrophy, or that connected with glaucoma, a strong current of from 3–8 elements (10 milliampères) is needed. Darrier believes, therefore, that the electrical optic reaction may be of very great service in ophthalmology in determining the diagnosis and prognosis.—*Centralbl. für klinische Medicin.*, Aug. 9, 1884.

Operative Treatment of Pulmonary Cavities.—Dr. E. Bull, of Christiania, in a paper read at the late meeting of the International Medical Congress, laid down the following propositions:

1. Abscesses of the lung, which can be diagnosticated with certainty, and are so situated that they can be opened through the chest-wall, should be treated in the same way as pleural empyema. 2. The condition is the same with regard to limited gangrene of the lung. If several gangrenous foci exist, each one must be treated separately. 3. Echinococci, and 4, foreign bodies in the lung are to be treated in a similar manner. 5. In bronchiectasis the formation of a pulmonary fistula is indicated only when the accumulation of stagnant matter in large cavities essentially contributes to the deterioration of the patient's condition. 6. In rare cases of tuberculosis, where a large cavity is the predominating condition, the cavity may be laid open with the view of improving the condition of the patient. 7. The operative puncture of a pulmonary fistula is justifiable as a palliative measure. 8. In cases where diagnosis cannot be arrived at, exploratory puncture is certainly of much value; positive as well as negative results may be derived from it. 9. Adhesion of the layers of the pleura ought not to be insisted on as an absolutely necessary preliminary to the opening of pulmonary cavities. 10. Amyloid degeneration is not an absolute contraindication to a palliative operation. 11. The use of the thermo-cautery is to be recommended both for the opening of cavities, and for the destruction of diseased portions of lung-tissue.—*British Medical Journal*, Sept. 6, 1884.

PAPAYOTIN.—PROF. FINKLER has recently experimented on a specimen of papayotin obtained from South America. Preparations of this specimen dissolved one thousand times the weight of fibrin in a short time, the digestion taking place in acid, alkaline, and neutral media, and in water; most rapidly in the last. This last property makes it especially valuable for use in rectal alimentation, since the reaction of the secretion of the large intestine will exert no unfavorable influence upon the action of the ferment. The digestion of albumen took place at 40° C.

Papayotin rapidly causes a solution of diphtheritic membranes, so that they are thrown off, or can be easily removed. After the solution of the membrane the temperature falls rapidly. Professor Rossbach says that one who does not use papayotin for dissolving croupous or diphtheritic membranes either treats his cases badly or has no papayotin. It acts very favorably in cases in which the larynx and trachea are invaded by the membrane. Rossbach also asserts that the action of papayotin on the membranes causes a decline of the fever in these cases.—*Medicinish-Chirurg. Centralbl.*, Aug. 29, 1884.

TREATMENT OF HÆMATEMESIS DUE TO ULCER OF THE STOMACH.—DR. R. STITZING, of Munich, says that the first and most important indication in these cases is to put the patient to bed and give him complete rest. He should not even be allowed to converse much. If necessary, narcotics should be used hypodermatically. As regards diet, the patient should take nothing but fluids for the first few days; and small pieces of ice should be swallowed; at the same time an ice-bag should be placed on the epigastrium. Iced milk should be taken for the first two or three days. Von Ziemssen advises against the administration of medicine at the beginning of the treatment, and especially against the use of astringents, as they tend to coagulate the blood which escapes from the ulcer, and cause vomiting. After the third or fourth day small quantities of lukewarm meat broth, in which some starch is mixed, should be given every three hours. Teaspoonful doses of cool, strong wine should also be given, champagne being especially indicated. After the sixth or eighth day other easily digested food may be taken, and a mild course of mineral water, such as Carlsbad, may be begun. Constipation should be treated with enemata only; cathartics are contraindicated under all circumstances.—*Medicinish-Chirurg. Centralbl.*, August 29, 1884.

CONVALLARIA MAIALIS IN HEART DISEASE.—DR. BOGOJAVOLENSKI, of St. Petersburgh, has recently made a number of experiments as to the effect of convallaria when administered hypodermatically to frogs; it was observed that the heart's action became slower, and the ventricular systole more energetic. By increasing the dose an apparent state of tetanic contraction of the heart was caused, and during the toxic period the excitability of the pneumogastrics was exaggerated. In experiments on dogs he found that the number of cardiac contractions was lessened by irritation of the pneumogastrics, and afterwards that the pulse was accelerated by paralysis of the pneumogastrics.

After quite an extensive trial of convallaria in cardiac cases, Bogojavolenski agrees with Sée, in the following indications for its use:

1. Palpitation resulting from a state of pneumogastric depression, or paralytic palpitation; simple arythmia with or without hypertrophy of the heart, and with or without lesions of the orifices and valves.

2. Mitral stenosis, especially when accompanied by a defect of compensation in the contractile force of the left auricle and ventricle; the sphygmographic tracings show that the contractile force is markedly increased.

3. In insufficiency at the mitral orifice it is especially valuable when pulmonary stasis is threatened, and when dyspnœa occurs from the passive congestion, with or without nervous troubles of respiration.

4. In aortic insufficiency its favorable effects may be easily seen. It is especially indicated when there is not compensatory hypertrophy of the left ventricle; and it increases the force of the heart when it tends to become weak and dilated.

5. In cardiac dilatation, with or without hypertrophy, with or without cardiac degeneration or sclerosis of the muscular structure, it is indicated.

6. It is indicated in all cardiac affections in which there is a tendency to dropsy. [For valuable suggestions as to its use, see *The Amer. Journ. Med. Sci.*, Oct. 1884, p. 551.]—*Gaz. Med. di Torino*, July 25, 1884.

SPLENECTOMY IN THE RABBIT.—DR. G. TISSONI has performed total extirpation of the spleen in rabbits eighteen times, the animals being kept under observation for eight months. He found that they bore the operations well, and suffered no disturbance of function either as regards nutrition, growth, or propagation of species. Only in young and growing animals were red blood-corpuscles with nuclei and nuclear cells in large numbers found in the medullary cavities of the bones. Nothing of pathological interest was found in the thymus gland or in the development of the thyroid gland.—*Centralb. für klinische Med.*, Aug. 30, 1884.

THE OPERATIVE TREATMENT OF CARIES OF THE TEMPORAL BONE.—JACOBY reports sixteen cases in which he operated for caries of the temporal bone by opening the mastoid process. Two other cases were treated without operation because the patients could not have the advantage of the after-treatment; and it is worthy of remark that one recovered in spite of an attack of pyæmia due to retention of pus. The other died of secondary tuberculosis of the lungs.

Of the sixteen cases operated upon, there were eleven in which the bone affection was secondary to acute purulent inflammation of the middle ear, and only four in which it was consecutive to chronic purulent inflammation. The remaining case was one of traumatic suppurative osteitis of the mastoid process following otitis media. Of the eleven cases, two occurred as sequelæ of scarlet fever; the other nine were idiopathic. Of the sixteen cases the majority had fistules of the mastoid process, in two cases there was no change of the mastoid, no fistule could be found in two cases, and in one case it was enlarged and very sensitive to light percussion. Three of the cases were fatal, in spite of the operation; one death being due to chloroform. The time at which complete recovery ensued after the operations varied from six weeks to one year.—*Centralbl. für die med. Wissensch.*, August 9, 1884.

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SATURDAY, OCTOBER 4, 1884.

THE SURGERY OF UTERINE MYOMATA.

AT the recent meeting of the International Medical Congress, at Copenhagen, DR. KŒBERLÉ, of Strasbourg, and DR. WIEDOW, of Freiburg, read valuable papers on the treatment of myomata of the uterus, respectively, by laparotomy and oöphorectomy, abstracts of which, as well as of the discussions which the papers elicited, may be found in the *Centralblatt für Gynäkologie*, for September 6. As the subject is one of great importance, and as the discussions contain the latest views of eminent gynecologists, its more salient points will doubtless be of interest to our readers.

The indications for laparotomy depend, in the opinion of Kœberlé, upon excessive and prolonged hemorrhage; rapid and continuous growth of the tumor; the age of the patient—the further off the menopause the greater the necessity for resorting to it; the seat of the neoplasm—those present in the lower segment of the uterus and in the broad ligaments affording a bad prognosis; and, finally, special conditions, as when the tumor renders life a burden. The contraindications are extensive vascular adhesions between the growth and wall of the abdomen; impaction of the tumor in the pelvis; the increase and rapid reproduction of ascitic fluid, if any happen to be present; concomitant incurable disease; and existing affections which might compromise the result.

Sir Spencer Wells, Knowsley Thornton, Olshausen, and Martin rejected all of the contraindications except the last two, along with malignant disease, which, however, was not really a point for debate. In closing the discussion, Kœberlé stated that his conclusions in regard to ascites and vascular adhesions were not absolute.

The operative methods vary in accordance with the configuration, size, and seat of the myoma. In polypoid growths, the peduncle is tied and dropped into the peritoneal cavity. The relatively small, circumscribed, senile tumors may be enucleated, and the wound closed with deep sutures, although the latter do not effectually guard against hemorrhage. Large myomata are only amenable to partial or total hysterectomy. In the subserous and interstitial varieties, as well as in those which project into the cavity of the uterus and cannot be removed by the vagina, Kœberlé isolates the uterus on each side with a row of deep sutures, applies two metallic threads to the cervix, which are tightened with serre-nœuds, removes the tumor, and fixes the stump in the abdominal wound. In about fifty operations of this kind, he has had a mortality equal to that of ovariotomy with the extraperitoneal method of dealing with the stump, but he does not drop the stump for fear of hemorrhage. When the tumor is developed in the broad ligament, the operation is almost invariably fatal, so that he resorts to removal of the ovaries in that class of cases.

In the discussion which followed, Sir Spencer Wells, Sänger, and Olshausen declared themselves in favor of the intraperitoneal method of dealing with the stump, the first preferring the silk ligature and the last two the elastic ligature. Hegar, Kaltenbach, and Thornton, on the other hand, asserted that the extraperitoneal method afforded the best results, and Hegar accused the elastic thread of not infrequently giving rise to the formation of an abscess, while Kaltenbach stated that it readily excited necrosis of the stump. All of the speakers rejected drainage.

Wiedow has collected 149 cases of oöphorectomy for uterine myomata, of which 17, or 11 per cent., perished. In only 49 of these cases, however, had he been able to trace the histories for at least one year after the performance of the operation, his aim being to discover the influence of castration upon the cessation of hemorrhage and upon the atrophy of the tumor. The results secured were both objects in 36, the menopause in 3, diminution of the size of the tumor in 1, atrophy of the growth with slight regular or irregular bleeding in 8, and slight hemorrhage at intervals of three months in 1.

He also endeavored to show whether and how the result was modified by the seat and size of the tumor. In 2 cases of myoma of the cervix, the hemorrhage and other troubles ceased, and in 1 the volume of the growth was reduced. Of 12 cases in which the tumor reached as high as the umbilicus and even above that point, the menopause and atrophy resulted in 10, irregular slight bleeding occurred in 1, the tumor not being materially diminished, and in 1, after the menopause had been established for several months, there was regular bleeding, along with reduction of the size of the tumor.

From these excellent results, Wiedow concludes that large size of the growth is not a contraindication to oöphorectomy, and that it is preferable to myomotomy in that class of cases. He, moreover, thinks that the latter operation should be restricted to fibrocystic tumors and to pedunculated subserous growths. These views were endorsed by Hegar and Howitz, while Thornton thought that removal of the ovaries should not be resorted to for growths larger than a child's head.

DR. APOSTOLI, of Paris, directed the attention of the Section to the electrical treatment of myomata. He uses the constant current of high intensity, reaching even one hundred milliampères, and applies the active pole to the cavity of the uterus. From an experience with more than one hundred cases, he declares that the tumors diminish in volume, although they do not entirely disappear, and that the general health is fully reëstablished.

SUBCUTANEOUS ECCHYMOSES OF NERVOUS ORIGIN.

A VERY interesting article on this subject by DR. TH. KELLER, may be found in the *Revue de Médecine*, for August, 1884. Straus published, in 1881, in the *Archives de Neurologie*, a memoir upon subcutaneous effusions of wasting disease, entitled "Des Ecchymoses Tabétiques." Numerous cases have been from time to time narrated, in which effusions occurred under the skin in both sexes, in connection with nervous affections, such as hysteria, hystero-epilepsy, extreme mental emotion, cerebral apoplexy, and epilepsy, while in other cases concurrent conditions of any kind are absent. In a thesis by Faisons, in 1882, it was shown that certain affections of peripheral nerves, numerous alterations of the cord, myelitis, tubercular meningitis of the cord, and cancerous disease, give rise to subcutaneous hemorrhages in the form of ecchymoses and purpura. For a form of generalized purpura of which the anatomical substratum is a diffuse lesion of the cord, Faisons proposes the name myelopathic purpura. In one case of Keller's the hemorrhagic tendency always succeeded the use of Vichy water, which the patient was obliged to discontinue in consequence.

Keller reports five cases in the article referred to, all in women, and the ecchymoses were of an intermittent character, and occurred in different parts of the body, as the face, neck, arms, trunk, and thighs. The ecchymoses were almost always accompanied by a pricking or burning sensation which is ascribed to the irritation of the nerve-filaments at the moment of diapedesis.

The phenomena are explained by a permanent influence exerted upon the vaso-motor centres, cortical and spinal, more particularly the latter. This influence results in dilatation of the vessel walls, and either active or passive diapedesis. This view is supported by the recent experiments of Hitzig, Eulenberg, and Landois, who have demonstrated in the fronto-parietal convolution of the cortex, vaso-motor centres whose destruction produces an increase of temperature of from 9° F. to 12.5° F. on the side opposite the lesion. No congestion or diapedesis of the kind described resulted from these experiments, but, taken in connection with the subcutaneous ecchymoses noted by Charcot in cerebral apoplexy, a reasonable interpretation of the phenomena is thus given.

Dr. Keller seems to have been able in some cases, at least, to have cured this tendency to ecchymoses by the cold douche and other treatment incident to hydrotherapy.

PUBLIC LAUNDRIES AND BATHS.

THE establishment of public laundries and baths for the accommodation of the poor is an important means of promoting the public health, and, therefore, deserves to be encouraged, if not supported, by the local government. The housing of the poor is not the serious question here that it is in most European cities. Comfortable homes are provided in great numbers, which have the necessary conveniences for cleanliness and domestic work, but they are not within the reach of large numbers of the population, who have to content themselves with accommodations of the most inferior kind. One or two rooms must suffice for a family. The washing of clothes, cooking, and all other domestic work is performed in the apartments used for living and sleeping. Under the circumstances home comforts are banished, and health—the main dependence—is jeopardized. For such people the public laundry and bath would be a great boon. The disagreeable operations of washing and drying clothes could be transferred from the dwelling and sleeping apartments to an establishment fitted up with every convenience to facilitate the work, to which the wife could have access a certain number of hours upon the payment of a small fee. The moral effect of extending such a privilege to the poor would be very great.

The public bath system admits of a still wider field of application. Wherever a swimming-bath has been established, its extensive patronage proves the need of such accommodations. Swimming-baths should be established not only as promoters of cleanliness, but as excellent means of healthy exercise. It would be well if these aids to health could be continued the entire year, but when this is impracticable they should be substituted by private baths which should be placed within reach of the poor by charging only a small fee. The Badeanstalt, established this summer in Cologne, one of the most complete and largest on the continent of Europe, is an illustration in point. It contains a workman's swimming-bath, the charge for a bath being not over three cents. The supply of water is continuous. Men following dirty employment are compelled to perform a preliminary ablution with soap.

The public baths in Germany are probably more elaborate and complete than anywhere else. In all the principal towns these conveniences have been opened or are in course of erection. The same may be said of England. Public baths are now being built in Dublin at a cost of $25,000. France is not behind her neighbors in providing for the wants of the people in this respect. Swimming-baths are found in towns, small and large, standing on the banks of a river, and their use is in some cases gratuitous, while in others a small charge is made. In our cities the same liberal provision has not been made for the wants of the people. It is not needed in the case of persons in comfortable circumstances, as they can afford to have and do have private bathrooms in their homes. But the poor suffer in their health from being deprived of the advantages of the bath, and for them provision should be liberally made.

The cost of the erection of these establishments need not be great, and that of their maintenance would be trifling compared with the benefits bestowed. The obligation of the municipality to incur such an expense is derived from the duty to use every reasonable means for the promotion of the health of the people. What has already been done in this matter has been very successful, and encourages renewed efforts to extend the system to its widest and most useful application.

PROFESSIONAL PERSONALITIES.

THE use of personalities in professional discussions, is in most respects disadvantageous and injurious to the party who seeks their aid. A weak man uses personalities because of his poverty in knowledge and thought, or a strong man may, for the purpose of diverting attention from the intrinsic weakness of the cause he presents, but most frequently they are the expression of passion, or of great egotism. A man is indignant at a rival in place, or in reputation, and so utters harsh or bitter words against him, or he holds an exaggerated opinion of his own views and practice, and therefore condemns those who dare dissent. We may here remark as to the latter point, that the man who devises a plan of treatment, medical or surgical, is very apt to think it more valuable and important than it really is, just as many parents think their own children prettier and better than those of others.

The use of personalities gives in many, if not in all cases, unnecessary pain to the party referred to: few men have such perfect equanimity that they can be indifferent to unjust things, as they believe, harshly said of them, and the shafts of ridicule rarely fail to wound. Moreover, there probably comes to most men who indulge in personal abuse a time when they bitterly regret the pain, the alienation of feeling, if not the actual hostility, which they have caused, and would gladly recall every unjust, harsh, or unkind word they have uttered.

Even supposing the party assailed is clearly in the wrong, will he or his friends be converted by a coarse assault? It would be better than this to follow Hood's advice:

> " 'Mid light, and by degrees should be the plan
> To cure the dark and erring mind;
> But who would rush at a benighted man
> And give him two black eyes for being blind?"

Personalities may sometimes give a piquancy to an address, an essay, or a discussion—they may for the moment amuse—but they do not give strength to an argument, and the general sentiment of the profession condemns them. Usually they weaken even a good cause, and at once create a sympathy for the party attacked. St. Francis de Sales, called by Leigh Hunt "the Gentleman Saint," said, "It is better to remain silent than to speak the truth ill-humoredly, and so spoil an excellent dish by covering it with bad sauce."

The temptation to severity of language and bitter sarcasm may be great in the excitement of a public address, and they may be greeted with applause, but the sober second thought of even those who applaud, censures. Those who have the most wisdom are the most humble, and those of the largest hearts are the most kind; the former cannot be dogmatists, and the latter cannot inflict needless, and therefore cruel wounds; for, as a French proverb has it, a wound of the tongue is often worse than that of a lance.

Personalities oftentimes divert from the real point at issue, and thus hinder professional progress. They degrade rather than elevate the profession; they beget rudeness rather than refinement, coarseness more than delicacy, and evil rather than good. Differences of opinion in questions of medical theory and practice exist, and must continue, we fear for a very long time. Let individuals be lost sight of in the calm discussion of their opinions, and personalities be relegated to the class of politicians, who are so numerous to-day and whose life would be, like that of some microbes, impossible except in foul, decaying matter.

THE APPLICATION OF THE FORCEPS IN HEAD-LAST LABORS.

THIS subject is briefly considered in a report of the Griefswald Klinik and Poliklinik made by DRS. BEUMER and PEIPER in a recent number of the *Archiv* *für Gynäkologie.* They believe the indications for the use of the forceps in head-last labors to be four, namely, 1, the departure of the chin, or its becoming fixed behind the pubic symphysis; 2, slight disproportion between the head and the pelvis; 3, cramp of the lower uterine segment; and 4, the ascent of an arm, or its becoming fixed behind the neck so that it is impossible to restore it to its normal position, and the impossibility of extracting the head and arm together. They very justly remark that the first is the most frequent indication for the forceps operation; in their experience this operation became necessary in eleven cases of podalic version, and the results were most satisfactory, for all the mothers and children were saved.

Possibly the importance of the forceps for the delivery of the after-coming head has, in recent years, not been sufficiently appreciated. Among American obstetricians, the late Dr. Meigs especially urged it, and he asserted that it was his invariable rule to have the forceps in readiness in every instance in which he discovered that the head was to be born last.

SPECIAL ARTICLE.

INTERNATIONAL ELECTRICAL EXHIBITION, PHILADELPHIA.

[THIRD NOTICE.]

WITH the advance of electrical science the improvement in test-instruments has been a necessity. There are several fine displays of these instruments at the Exhibition, and the light which they shed upon the question of current measurements in electro-therapeutics is important. The instruments shown are chiefly those used for telegraph wires and cables, for taking the resistance of insulators, and for electric-light circuits and other commercial purposes. They are, of course, not adapted to medical purposes either in price or adjustment, but their principles are. The necessity for more exact work in electro-therapeutics has become apparent. De Watteville, whose recent work is the most scientific expression of the whole subject, says that "it is of paramount importance that we should have a thoroughly clear understanding of the strength of the current and its measurement." The Exhibition gives to medical men unusual facilities for making themselves acquainted with the general science of test-instruments; and to instrument-makers furnishes a hint, which they ought not to ignore, how to modify these mechanisms to the demands and prices of physicians. Exhibitors say that they could be made much cheaper if the demand for them was greater.

There have been attempts made to supply the want. An excellent little galvanometer, made expressly for medical uses, is shown by Queen & Co. It is Edelmann's galvanometer, with a scale graduated to the milliampère, which is the best unit for medical tests. The instrument has that most important feature—it is "dead-beat." That is to say, the needle goes direct to its proper place and stays there without any of the annoying to-and-fro movement which is seen in the usual galvanoscope. It was tested last week in the exhibition on one of Flemming's key-boards, and acted most satisfactorily. With cells each of about one and a half volts, the current passing through the human body, the needle was perfectly sure and steady, pointing out in milliampères the current-strength as additional cells were thrown into circuit.

The Bailey testing apparatus is a very convenient form. It contains a galvanometer—which is possibly not as perfect as Edelmann's—and a set of resistance-coils, all in a small box. The instrument so far has been made to measure to not more than 2000 ohms resistance.

The rheostats exhibited are, without exception, we believe, resistance-coils. There seems to be no need for any other—the water-rheostat not being comparable with the coils, unless in the matter of cost. This latter consideration is, to be sure, important; a fine set of resistance-coils, with a Wheatstone bridge arrangement being very expensive. But these have not yet been modified to the physician's use.

A very fine instrument for physiological work is Sir Wm. Thomson's reflecting astatic galvanometer. This beautiful apparatus has a needle which carries a small mirror, the light reflected from which falls upon a scale at some distance. This needle is so delicately adjusted that it is, as the name implies, *astatic*—very movable to the slightest electric current. It has been used in physiological laboratories for detecting the natural currents flowing through muscle and nerve.

We have seen no voltameter at the exhibition of the kind described in some of the text-books, which measures the volume of hydrogen gas set free by the current. Such an instrument finds its best use in calibrating, and is at best a clumsy affair for the electro-therapeutist. The voltameters displayed are more elaborate and not adapted to medical wants. They are, apparently, a special form of galvanometer.

There are several displays of storage batteries; which form of electrical reservoir may come in time to have great interest to physicians. It is, as yet, entirely too cumbrous to be of use, except in rare cases. We are informed that the Brush Company have fitted up a cell for an electro-cautery which has been successful. As the great desideratum is to obtain an electro-cautery battery which is portable by hand, it is difficult to see how these ponderous cells, each weighing fifty pounds, offer inducement for even a trial. They are valuable for lighting purposes; and their utility can be seen in the reporters' room, which is illuminated entirely by them.

An interesting exhibit is made by the Telemeter Co., of N. Y. The object of their instrument, in its numerous applications, is to transmit to a distance the indications of any dial-hand or needle. The uses to which it is put are varied. A thermometer in a grain-elevator will indicate and register all its diurnal variations in a distant office; so a barometer can be read at any time by telegraph at a remote station; the temperature of the sea is made known constantly on the deck of the steamer, and the pressure on the boilers may be seen at a glance by a superintendent who is far away from them. This is all done by a quite simple arrangement of magnets and escapements and a few cells. It has been fitted up in hospitals, where it will no doubt prove useful in helping the steward to know the temperature of his wards and the vigilance of his engineer.

Flemming, of this city, has a very creditable display of medical batteries, and offers some improvements which will, no doubt, be novelties to many physicians. His universal battery supplies the constant and induced currents, and also the current of small internal resistance for the galvano-cautery. By an ingenious commutator he changes the combination of his elements from a compound circuit (where zinc and carbon are joined alternately) to a simple circuit (where all the zincs are joined and all the carbons). He thus secures the same effects as with a few large plates, and obtains a very good cautery. This appears to be an excellent device. Another invention is the automatic *galvanic* interrupter. This is a modification of his slow faradic interrupter, the long arm of which is still swung by a Grenet cell and magnet, just as when the induced current is being used; this arm, however, has projecting over it a short beam, which it touches in every ascent, and through this beam the galvanic current is made and broken. It has the advantage of being automatic, and of having a wide range of movement from a very few to a great many contacts a minute. Flemming's modification of the Siemens-Halske commutator, or pole-changer, is a great improvement—although not a novelty—and ought to be on every key-board. It admits of a perfect *break* in the circuit, which the other pole-changer does not. Its mechanism can be seen at a glance. This is an important feature in the present method of studying polar reactions, and seems to us a better device than any other for most cases. By making one turn of the disk all four polar effects are obtained. The work of this manufacturer is marked by its well-known neatness and durability.

SOCIETY PROCEEDINGS.

INTERNATIONAL MEDICAL CONGRESS.
COPENHAGEN, AUGUST, 1884.

Section of Obstetrics and Gynecology.

TREATMENT OF UTERINE MYOMATA BY LAPAROTOMY.

Prof. Kœberlé, of Strasbourg, said that the operative methods and indications in cases of fibro-myoma were even at the present time the subject of controversy. The indications resulted from the gravity of the state of the patient in consequence of excessive or prolonged catamenial hemorrhage, or from the rapid or continued increase of the tumor, and from the age of the patient, from the seat of the tumor, and from special circumstances, as when life became unsupportable from the troubles caused by the tumor. Operation was contra-indicated when there were extensive vascular adhesions to the abdominal walls, or when the tumor was very large and had too extensive connections; when it was enclosed in the pelvis; when there was ascitic effusion liable to increase, and to be reproduced quickly; or when there was some concomitant incurable affection, or some circumstance which might exercise an unfavorable influence on recovery. The operative method varied according to the seat and size of the tumor. Uterine fibro-myomata should be operated on by the vaginal method, in cases where they formed a more or less prominent swelling in the uterine cavity and toward the vagina, when the size of the canal allowed extraction in this way. Fibro-myomata, projecting into the uterine cavity, and immovable by the genital canal, as well as interstitial and subperitoneal tumors, were capable of removal by laparotomy. Prof. Kœberlé spoke on hysterotomy and hysterectomy, and gave general rules for their operation. He stated that the result was very favorable when the tumors were developed in the body of the uterus. The operation was difficult and grave when the tumors were developed in the broad ligaments, and deeply embedded in the pelvic cavity. The reunion of the abdominal wound, dressing, and antiseptic treatment were next passed in review. Prof. Kœberlé concluded his paper by affirming that the treatment of uterine fibro-myomata by laparotomy constituted a real progress in contemporary surgery, and merited in every way serious consideration.

ELECTRIC TREATMENT OF UTERINE MYOMATA.

Dr. Apostoli, of Paris, proposed a new electrical treatment of uterine fibromata, distinguished by its point of application, nature, intensity, and its manual mode of application. To the old procedure of the application of continuous currents to the cure of fibrous tumors—characterized (1) by very feeble electrical intensity; (2) by the vagina being oftenest the point of application of the positive pole—he opposed a treatment always more active, since it reached one hundred milliampères of intensity, and was always intrauterine, acting along the whole depth and extent of the uterine mucous membrane. A clinical experience, extending over two years, upon over one hundred cases, had shown that the treatment constantly reduced the size of the uterus, and completely restored the patient.

Dr. P. Ménière, of Paris, advocated the

DESTRUCTION OF UTERINE TUMORS BY ELECTROLYTIC PUNCTURE.

This was an operation which was effectual and of little danger, provided that it were practised, not by the vagina, but across the abdominal wall. It was indicated—(1) when medical treatment had failed; (2) where the fibromata were very large, and also only slightly movable; (3) when they endangered the life of the patient by continuous metrorrhagia or grave general trouble; (4) it was a final resource in cases where total removal was impossible. This operation had already been practised by Cutler, in 1871; Broure, in 1873; Kimball, in 1874; Ciniselli, in 1875; and Semeleder, in 1876. But their operative procedures differed, were very vaguely described, and were little known in Europe. In face of the marvellous results which he had got in six cases, the results of which were indelibly fixed in his memory, it seemed to him to be of interest and useful to call the attention of the Congress to this point of gynecological therapeutics, and particularly to the manual method of procedure, on which he had, after numerous trials, finally settled. The instruments employed were: (1) a battery of the continuous current of Gaiffe, with twenty-four pairs of zinc-plates, and galvanometer divided in milliampères; (2) gold needles, ten centimetres long by a millimetre and a half thick, flattened and pointed at their extremities (of lance-shape, with cutting edges); they were isolated for a length of seven centimetres by means of resinous varnish, dried and calcined in the flame of a spirit-lamp; (3) a needle propeller, with a graduated stop-notch, so as to insert the needles to a depth previously fixed upon; (4) light and flexible conducting wires, joined to the needles by means of a *serres fine*. The operation was, he said, repeated twice a week, or every ten days, in case of inflammatory accidents; the sittings lasting twenty minutes, from the insertion of the positive and negative electrodes to the depth of eight centimetres. A current of from forty to fifty milliampères was used; and, after the extraction of the needles, the cutaneous orifice was closed with collodion.

DR. MARGARY, of Turin, advocated supravaginal amputation of the uterus from the vagina as a treatment for fibromata in the posterior uterine wall.

OÖPHORECTOMY FOR UTERINE TUMORS.

DR. WIEDOW, of Freiburg, said that he had collected the cases in which removal of the ovaries had been performed for uterine tumors, partly from published records, partly from private information. Through the friendly coöperation of a large number of German, Austrian, and Swiss practitioners, he was able to arrive at conclusions as to the lasting influence of the operations, and the subsequent condition of the patients on whom it was performed. The principal point was to show the influence of the operation on the cessation of hemorrhage, and on the diminution of the size of the tumors. He also endeavored to point out whether, and in what way, the result of the operation was modified by the situation and size of the tumor.

PROF. MUELLER, of Berne, read a paper on

THE CÆSAREAN SECTION AND ITS MODIFICATIONS.

He said that the prognosis in Cæsarean sections had been hitherto very unfavorable, the death-rate exceeding eighty per cent. The recent advances in surgery, especially the improvements in laparotomy, had had an influence on the operation, which was shown by the endeavors to combat successfully the loss of blood and sepsis. This object was sought to be attained by two essentially different ways; the modifications were either radical or conservative. In the radical modification, the source of hemorrhage and of septic infection was cut off by removing the uterus; in the conservative, the uterus was retained, and an endeavor was made to ward off these dangers by careful treatment of the uterine wound. Both methods had doubtless certain advantages; but theoretical considerations could not support the radical modification. Yet, in regard to this matter, the result must turn the scale; the operation which was attended with the lowest mortality must be accepted as the best. The death-rate of the radical operation was about fifty per cent.; but trustworthy statistics were wanting with regard to the conservative method, of which there had been, as yet, less experience than of the former. It, therefore, remained yet to be decided which operation should be preferred. If the conservative method should gain recognition, another condition would have to be fulfilled, namely, to protect the woman against rupture of the uterus in a subsequent pregnancy, and against the danger of another Cæsarean section; and this would have to be done in a much more satisfactory and safe way than had hitherto been the case.

DR. BRAXTON HICKS, of London, read a paper on

INTERMITTENT CONTRACTIONS OF THE UTERUS IN THE DIAGNOSIS OF PREGNANCY AND ITS COMPLICATIONS.

He called attention to the value of this means of diagnosis, and referred to the discussion on his paper in the last Congress, where it was stated that soft tumors of the uterus also contracted at intervals. Presuming this was ultimately found to be correct in general, the cases in which this would interfere with the diagnosis were pointed out; namely, those in which the fœtus could not be felt, and where hemorrhage was urgent—for instance, where the uterus remained constantly firm, as in some cases of blighted ovum, or apoplectic ovum. In these, there was almost always a history of pregnancy, and of recent hemorrhage; while, if there were amenorrhœa or only normal menses, it would be exceedingly rare if it were a soft tumor. He gave three cases; two of pregnancy complicated with uterine fibromata. In the third one, of extreme obliquity of the uterus, it was difficult to say how much was uterus. In all the cases, the exact relation of the uterus was clearly and readily made out by means of the alteration which occurred at short intervals in the density of the uterus.

ANTISEPTICS IN LAPAROTOMY.

PROF. MIKULICZ, of Cracow, began by referring to the necessity of antiseptics in laparotomy, as well as in all other operations attended with loss of blood. The principles of the use of antiseptics in laparotomy were the same as in other great operations; but the details differed essentially in some points. This depended on the peculiarities of the peritoneum, which in some respects favored, while in others they impeded, the application of antiseptics. The most important properties of the peritoneum having an influence on antisepsis were, first, the great extent of surface, which was a source of danger of cooling on exposure, of rapidly spreading inflammatory and septic processes, etc.; secondly, its great power of absorption and exudation, the first leading, in septic peritonitis, to general septic infection, while, in the healthy peritoneum it prevented the accumulation of large masses of secretion; thirdly, the liability to pour out plastic exudations, and rapidly to form firm adhesions; in this way, foci of inflammation might be localized, and ligatures and separated masses of tissue encapsuled. With regard to antisepsis in laparotomy, attention was directed to the following points: A. The peritoneum was more easily affected by septic infective matters than any other tissue. Besides this, it was not possible to use, as with wounds of other parts, very active antiseptic measures, such as irrigation with carbolic acid and other powerful means, as, on account of rapid absorption, the danger of poisoning by the antiseptic was very great. Again, while drainage was of great use in wounds of other parts, it was useless in the peritoneal cavity, and could not obviate the results of infection of any kind. For these reasons, the chief point to be attended to in antisepsis during laparotomy was the absolute withholding of septic material from the peritoneum; and herein lay the great difference between antisepsis in laparotomy, and in other operations. In laparotomy, antisepsis was prëeminently prophylactic. The cleansing and disinfecting of everything which was to be used in or had any relation to the operation, must be carried out much more thoroughly than in other operations. The spray was superfluous in faultlessly clean rooms; but, in hospitals, it should be used for half an hour to an hour before the operation, for the mechanical purification of the air. During the operation, it was useless. In operations on the stomach and intestines, absolute prevention of the escape of the gastric or intestinal contents was one of the most important points in antisepsis. Drainage of the peritoneum was nearly always quite superfluous in operations performed aseptically; it might even be dangerous by allowing infection of the peritoneum to take place through the drainage-openings. Complete drainage of the peritoneum by the methods now in use was, on mechanical grounds, altogether impossible. Hence drainage was permissible in laparotomy only in rare and exceptional cases. B. Besides direct infection during the operation, spontaneous infection might occur in the peritoneum in certain conditions. It occurred when a large quantity of fresh, especially sero-sanguineous fluid, collected in the peritoneum, and was not rapidly absorbed. In this were developed bacteria, which led to decomposition of the secretion, and infection of the peritoneum. Hence the second great principle of antisepsis in laparotomy was to prevent the collection of secretion in the peritoneal cavity. Any means which limited the amount of secretion in the peritoneum or favored its absorption was a part of antisepsis in laparotomy. An accurate "toilet of the peritoneum" was of the first importance; next came the prevention of secreting wound-surfaces in the peritoneum by various means, such as ligature *en masse*, cauterization of the pedicle and of adhesions, suture of the wounded surfaces—*e. g.*, of the ligamenta lata or of the stump of the uterus (as in Schröder's myomotomy); and the shelling out of tumors having a wide base or lying behind the peritoneum, followed by suture of the peritoneal covering to the abdominal wound, so as to shut off the entire surface of the wound from the peritoneum.

Everything also must be avoided which might too powerfully excite the peritoneum to secretion—*e. g.*, irritation by strong antiseptics. To favor absorption, a compressive bandage should be applied over the whole abdomen; it also fulfilled the necessary object of keeping the abdomen at rest. With regard to the material used for ligature, catgut and carefully disinfected silk were equally good from an antiseptic point of view. The pedicle might be treated either extraperitoneally or intraperitoneally, so long as the abdominal cavity was perfectly closed. The manner in which the sutures were applied to the abdomen had no influence, provided that the surfaces of peritoneum were properly united. Any special method of dressing the wound was of very little importance, provided that no drainage-tubes were introduced into the abdominal cavity. A narrow strip of material, rendered antiseptic, was quite sufficient for the dressing of the wound; and for this purpose, solution of carbolic acid was the best and safest means. Large quantities of iodoform were dangerous, on account of the liability to poisoning; but Dr. Mikulicz had with advantage applied it in very small quantities to the pedicle and to the sutured stump of the uterus.

PROF. HALBERTSMA, of Utrecht, in a paper on

THE SIGNIFICANCE OF ALBUMINURIA IN PREGNANCY,

said, in the first place, that the facts observed did not permit his recognizing, as the cause of albuminuria in pregnant women, a reflex contraction of the renal arteries. Secondly, albuminuria in pregnant women was specially observed when there was a want of proportion between the size of the gravid uterus and the abdominal cavity. And, thirdly, the cause of albuminuria in pregnant women was, in the greater number of cases, tension and compression of the uterus.

SOME DIAGNOSTIC DIFFICULTIES CAUSED BY HYPERTROPHY OF THE CERVIX UTERI.

PROF. HOWITZ, of Copenhagen, pointed out that, in cases of hypertrophy of the neck complicated by dilatation of the body and fundus of the uterus, special symptoms arose in consequence of change of the anatomical relations. In cases of pregnancy, especially in the first months, this condition gave rise to diagnostic difficulties. The elevated situation of the uterine enlargement, its strange mobility, its elasticity and situation, were characteristic guides in such cases. The fœtal *bruit* could also be heard sooner than ordinary. A careful examination by the vagina and rectum would give precise information as to the condition of the uterus.

DR. PRIESTLEY, of London, said he had seen cases very analogous to those described by Prof. Howitz, which produced, not difficulty in diagnosis, but difficulty in accouchement. It was a question well deserving of consideration, whether, in certain cases, some operative measure might not be adopted.

THE OPERATIVE TREATMENT OF EXTRAUTERINE PREGNANCY.

PROF. WERTH, of Kiel, said that the operation was indicated in the early months of pregnancy when the fœtus, being dead and lying in Douglas's pouch, produced severe symptoms of incarceration. On the other hand, laparotomy was without object when it was concluded that rupture of the sac had taken place, and experience up to the present time was in favor of expectant treatment. When pregnancy was more advanced, and the embryo was alive, operation gave little prospect of saving the child, and was of unfavorable prognosis for the mother, except in cases where the anatomical conditions favored removal of the entire ovum with its membranes. Hence it was a principle to avoid operation while the child was alive, and to wait for its death. The expulsive movements following the death of the embryo could, as a rule, be held in check by appropriate means. As the extrauterine position of a fœtus which had died after having passed beyond the first stages of development was a source of danger to the mother's life, removal by operation of the dead fœtus was necessary. The prognosis was incomparably better than that of operation during the life of the fœtus, provided that a suitable time were chosen for the operation. This, whenever possible, should not be performed before arrest of the circulation in the maternal placenta might be supposed to have taken place; namely, from the tenth to the twelfth week after the death of the fœtus. Speaking of the methods of operation, Dr. Werth said that, in the rare cases of prolonged pregnancy in the outer part of the Fallopian tube or in the ovary, with simultaneous unfolding of the broad ligament, extirpation of the entire sac was indicated ; the operation was like ovariotomy, and the prognosis was similar. As a general rule, the sac should be sutured to the abdominal wound. The placenta and membranes of the ovum should be removed, if there was no doubt as to the previous occlusion of the placental sinuses by thrombosis. If strict antiseptic precautions were followed during the operation, and an occlusive dressing applied, then neither preventive drainage through the vagina, nor permanent irrigation of the sac was necessary, provided that decomposition of the contents of the sac had not already set in. Both these were to be avoided, as well as washing out and plugging the sac, when the operation was performed during the life of the embryo or shortly after its death, and when artificial or spontaneous detachment of the placenta threatened fatal hemorrhage. On the other hand, the author recommended in these circumstances the partial filling of the fœtal sac with some substance (tannin and salicylic acid in equal proportions, according to Freund), which might enable the placenta to remain aseptic until it was thrown off at a later date. Elytrotomy was preferable to gastrotomy only in some rare and peculiar cases. With regard to the proceeding recommended by Martin, of partial removal of the fœtal sac, suture of the remaining part, and drainage through the vagina, further experience was required before a decision could be arrived at as to its general applicability.

THE EARLY PERFORMANCE OF OVARIOTOMY.

Mr. Knowsley Thornton, of London, read a paper on this subject. He first considered whether it was ever right to interfere with an ovarian tumor by tapping or by aspiration. Spencer Wells, Keith, and Thomas were in favor of tapping; and many other leading ovariotomists encouraged it. He gave quotations from Gross, Emmet, and Lawson Tait against the practice ; and referred to the doubtful advantages claimed for this proceeding compared with its dangers, and its immediate and remote mortality. He said that exploratory incision was far safer and better in doubtful cases. Tapping should be condemned, except in some very rare cases. He would always remove an ovarian tumor as soon as it was large enough to be abdominal and slightly stretch the parietes. There were objections in operating earlier, except in special cases. The danger lay in delay. Pathological changes in the cysts might lead to the escape of their contents, and to the formation of adhesions; or the pedicle might become twisted. He adduced illustrations of the dangers of delay, drawn from over 400 ovariotomies he had performed, including forty cases in which ovarian fluid was free in the peritoneum, and thirty-four cases of twisted pedicle. He then summed up by considering the following questions : 1. Is tapping ovarian or parovarian cysts, or cysts of the broad ligament, ever justifiable ; and if so, what conditions justify it ? 2. Can any fairly general and defined rule be laid down as to the proper time at which to perform ovariotomy ; and if so, what conditions justify an earlier or later operation ? He concluded by appealing to the profession to improve still further the brilliant results of ovariotomy, by condemning tapping and supporting early ovariotomy.

MANAGEMENT OF THE THIRD STAGE OF LABOR.

Prof. Stadfeldt, of Copenhagen, read a paper on this subject, in which he gave the result of the expectant method of treatment, Credé's method, and the Dublin method. In the expectant method, as practised in Copenhagen, the placenta was allowed to become detached spontaneously, and to escape into the vagina, unless severe hemorrhage indicated earlier removal of the contents of the uterus. As a rule, the detachment of the placenta took place within about two hours. In Credé's method, circular frictions of the fundus uteri were made immediately after the birth of the child, and during a strong after-pain, generally the third, the placenta was pressed out by a combined concentric and pushing-down pressure on the fundus and body of the uterus. The Dublin method was described in somewhat different terms by different authors. As a rule, the chief importance was attached to pressure on the fundus uteri immediately after the birth of the child. This, he thought, tended to increase anteflexion, and thereby to impede the escape of the placenta. He had, therefore, applied friction to the fundus uteri, as in the first stage of Credé's method ; and, when the placenta had escaped into the vagina, it was easily removed by the help of two fingers, with simultaneous gentle traction on the umbilical cord. In a few cases, where the placenta was not expelled at the end of half an hour, he made a depressing movement through the fundus. When these methods failed, the placenta was removed by the introduction of the hand into the uterus. Dr. Stadfeldt had treated a large number of cases by each of the three methods above named, and gave the results. From his statistics he excluded all cases of abortion and of placenta prævia, cases in which the contents of the uterus was putrid, and some cases of very difficult labor. From April 1, 1873, to March 31, 1877, he followed the expectant method in 1780 cases; from September 1, 1877, to February 1, 1881, Credé's method in 1611 cases; from May 12, 1882, to February 15, 1884, the Dublin method in 971 cases; and from February 16 to May 30, 1884, the expectant method in 198 cases. The results indicated that, when compared with the expectant method, that of Credé was preferable. Detachment and retention of the membranes, or of small portions of placenta, indeed occurred more frequently; but the preponderance was not great (2.3 against 1.8 per cent.), and any danger might be obviated by the use of antiseptics. On the whole, it seemed to him that the objectors to Credé's method were wrong in attaching too much importance to its disadvantages, and in overlooking the fact that it removed the dangers attendant on the expectant method during the time of waiting, especially outside lying-in hospitals. It could not, however, be denied that the proper and safe application of Credé's method required so much intelligence and accuracy, that it might be attended with danger in the hands of unskilful persons, and, therefore, it was not thought right in Copenhagen to teach it to midwives. On the contrary, the Dublin method was easily learned, and was free from the dangers of the expectant and Credé's methods ; on the one hand, it diminished the liability to flooding and of retention of the placenta ; and, on the other, removed the danger of separation and retention of the membranes. It had been said that Credé's method, by favoring retention of the membranes and of the decidua, was more liable than the expectant method to give rise to puerperal disease and mortality. The contrary was the result in Dr. Stadfeldt's experience; the figures given being, with the expectant method, for disease, 24 per cent., and for mortality, 1.9; with Credé's method, disease, 18.3 per cent., mortality, 0.6 per cent. In both series, antiseptics had been used with equal energy. He believed that, in the present day, retention of the membranes had little influence on puerperal disease and mortality, provided that strict antiseptic precautions were carried out during labor, and that the accoucheur abstained from unnecessary meddling during the lying-in period. Large portions of decidua might even be left in the uterus without becoming septic, and without giving rise to self-infection of the patient.

PROF. LAZAREVITCH, of Kharkoff, read a paper on

CONGENITAL LATEROPOSITIONS OF THE UTERUS,

in their relation to the mechanism of labor, and to the periuterine tumors. These congenital lateral positions were, he said, frequent, especially in cases in which the uterus was completely displaced to the left. Those which depended on the development of pathological growths must be changed to other positions, and on that account must be called accidental. But, if they depended on a defect in the development of the broad ligament, or of the lateral wall of the vagina, these positions were invariable, and did not alter during the growth of the tumors, whatever these might be, which were formed round the uterus, any more than during the period of pregnancy. If the lateral position of the uterus were sufficiently marked, the anterior position of the rectouterine pouch, being displaced by the uterus, took an oblique shape; and the ovary, which corresponded to the large side of the periuterine space, being pressed upon, often lay above the periuterine pouch, and fell down more or less. The ovary of the opposite side, not finding place near the uterus, was ordinarily raised up and passed above the upper entrance to the cavity. According as the one or the other ovary became cystic, the cyst either remained for a longer or shorter time in the deep cavity, and, in its growth, displaced the uterus forwards and upwards, or, from the beginning of the growth, was found above the deep pelvis and the uterus, leaving it free. If the ovary corresponding to the large side of the periuterine space became cystic, the pedicle of the cyst was ordinarily long; and, on the contrary, it was short if the cyst belonged to the ovary on the smaller side of the periuterine space. Thus, so far as the lateral position of the uterus was concerned, one was not able to say to which of the ovaries the cyst belonged; but, if one knew to which ovary the cyst belonged, one could estimate the length of the pedicle. Being turned to one side, the uterus left free entrance to the rectouterine pouch; and, for this reason, the blood of the pouch could spread in all directions. If the uterus were turned to one side, it was difficult to say that it was completely inclined, or bent forwards or backwards; it was in this event that the cases of lateroversion and latero-flexion were met with. In the case where the uterus was turned to one side, pessaries could not keep it up, owing to the difference in the length of the lateral walls, and the difference in height of the lateral vaults of the vagina. One was often deceived as to the origin of the pain felt sometimes on one side in the lower part of the abdomen, particularly during menstruation, in attributing this to the ovary. This pain most often proceeded from the laterally displaced womb. Congenital lateral positions, as well as the lateral versions of the womb, had an evident influence on the mechanism of labor, but this influence was not proportional. In the lateral version the womb, increasing during pregnancy, preserved its regular form, changing only the direction of its axis; whereas, when displaced in the lateral position, it preserved the direction of its axis, but changed its shape, because, on the side on which it approached one of the lateral walls of the pelvis, its lower segment did not expand, or expanded very little, whilst the segment on the opposite side underwent sacciform expansion. During labor, one could easily do away with lateral version of the womb by making the woman assume a suitable position, or by keeping up, by means of the hands, the corresponding side of the womb. But these measures became useless if the womb were in the state of lateral position. In this case, it was enough to introduce the finger into the neck of the uterus, and to draw it toward the middle of the pelvis.

DR. E. INGERSLEV, of Copenhagen, read a paper on

STATISTICS OF PUERPERAL FEVER IN DENMARK,

in which he gave a brief summary of a research into puerperal mortality in the towns of the Danish provinces and in Copenhagen for the last seventeen years. The principal aim of the paper was to explain how the difference between the mortality in the maternities and outside them, elsewhere brought into such strong relief, had lost its *raison d'etre* since it was proved that the antiseptic measures to be taken in labor were still less performed outside of maternities. He also stated his opinion that matters were, up to this time, nearly as successfully managed in the towns as in the country districts of Denmark. Dr. Ingerslev went on to show that the ravages of puerperal fever were most manifest when one looked at the proportion between the puerperal mortality and the total mortality in women from fifteen to forty-five years of age, that was to say, of the age at which labor generally took place. In this regard, a great resemblance was found between this and like researches made a short time back in Prussia. The great difficulties in the way of finding a fairly exact expression for the puerperal mortality would be, perhaps, best overcome in a small country, where one could almost easily obtain a general view of things, and make requisite corrections by applying to medical men for the necessary explanations. He had made the attempt for a period of some years, and in this way had made a calculation of the mortality, as near as possible, and showing, at the same time, a minimum of errors. The calculation, so checked, showed an evident decrease in the puerperal mortality, which undoubtedly was due to a more strictly antiseptic conduct of labors even outside the maternities.

DR. MARTINEAU, of Paris, read a paper on

UTERINE ADENOLYMPHANGITIS.

as a cause of the so-called periuterine troubles, and its importance in the treatment of inflammation of the uterus. He took the view that uterine and periuterine adenolymphangitis was closely connected with uterine inflammation. Acute or chronic metritis could not exist without the uterine and periuterine lymphatic system sharing in the inflammation of the uterine tissue. Periuterine adenolymphangitis was the origin of the inflammatory accidents called periuterine, such as phlegmon of the broad ligament, periuterine phlegmon, perimetritis, and pelvic peritonitis. The designation of these conditions by the names adenophlegmon of the broad ligament, periuterine adenophlegmon, adenopelvic peritonitis, was that which suited them, because it recalled their origin and pathology. Periuterine adenolymphangitis being equivalent to uterine inflammation, every cause which would have as a result the increasing of this inflammation would at the same time increase the periuterine adenolymphangitis, and bring about the symptoms.

DR. APOSTOLI, of Paris, proposed

A NEW ELECTRIC TREATMENT OF PERIMETRITIS BY DOUBLE FARADIZATION OF THE UTERUS.

He described, in the first place, the modification which he had introduced in the manual application of uterine faradization (A. Trifner's method); and he enumerated its general advantages in the treatment of simple metritis. He applied his method also advantageously in perimetritis, and described the manual method, the dose, duration, and intensity of the application. Summing up, he had always found faradic currents, of high tension, feeble dose, and long duration to relieve every perimetritis, even acute, and bring about its rapid resolution.

PARTIAL EXCISION OF THE PERITONEUM.

DR. SAENGER, of Leipsig, said that in the radical extirpation of large dermoid tumors of the abdominal wall (fibroma, sarcoma, perhaps myoma) which, arising mostly from the aponeuroses, were closely or even inseparably connected with the parietal peritoneum, this might require to be cut away along with large portions of the abdominal muscles, to such an extent that the edges of the peritoneal wound could not be brought together, and no covering remained except the skin. Dr. Sänger had operated on a case by a modification of Sklifosovsky's operation, and the course had been perfectly aseptic. The abdominal muscles, which were much thinned, being preserved, the swelling was removed from its capsule with a portion of parietal peritoneum; a number of small drainage-tubes were placed in the abdominal cavity; the skin was drawn together and sutured in such a way as to form a firm ridge, so as to prevent the occurrence of a hernia. Excision of the abdominal wall might be followed by retroperitoneal emphysema, which might be removed in a few hours by the application of an elastic bandage. Experiments on rabbits showed that a new formation of peritoneum did not take place, but the intestine rapidly became adherent to the skin. Resection of the parietal peritoneum and of that in Douglas's pouch might, the author said, be done in cases of firm adhesion of tumors of the abdominal cavity, where the breaking through of close and very vascular adhesions appeared likely to be especially difficult, and also in cases where the peritoneum, mistaken for an adherent capsule, had been extensively peeled off from the aponeurosis, and the properitoneal space had been converted into a sac which might readily become the seat of an abscess.

TREATMENT OF PUERPERAL FEVER BY COLD BATHS.

PROF. VINCENT, of Lyons, said (1) that the administration of cold baths was practicable with the recently delivered attacked with puerperal fever; that (2) cold baths were free from danger in the puerperal state; (3) they had a certain and quick antifebrile effect in the sequelæ of delivery; (4) recovery from puerperal fever was the rule with treatment by baths of proper temperature and methodically administered; (5) cold baths were indicated in all high temperature forms of after-complications of childbirth, the very acute peritonites excepted. The indication for cold baths did not arise except where the fever was kept up, without notable morning remission, to about 104° Fah., when the powerlessness of quinine and diffusible stimulants in full doses had been shown, and when, in fine, the lochia were fetid, and intrauterine injections had been carefully tried without bringing a fall in the febrile condition. (6) Cold baths should be administered at a temperature varying from 82.4° to 64.4° Fah.; according to the fall secured by the first bath given at 82.4° or 86°, the temperature of the subsequent baths should be reduced. (The rule was, to get with a cold or tepid bath a fall of from one to two degrees of the patient's temperature.) The method used in typhoid fever, treated by cold baths after the system of Dr. Brand, should be followed, with modifications. (7) The cold baths were repeated every three hours until the temperature had fallen to 100.4°, and staid there, with only ascending oscillations of some tenths in the evening. (8) When baths of 64.4° or 68° Fah., repeated every three hours, night and day, did not bring about a notable reduction of temperature, a large ice-bag should be placed, in the intervals of the baths, on the abdomen of the patient. (9) Along with cold baths and ice-bags, spirits and tonics should be freely administered; the patients should be fed with liquid or semiliquid foods, having much nutriment in a small bulk—soups, beef-tea, American broth, milk, etc. —*British Medical Journal*, Sept. 6, 1884.

SECTION OF MILITARY MEDICINE.

DR. JOSEPH EWART, of Brighton, read a paper on

TYPHOID OR ENTERIC FEVER AMONG SOLDIERS IN THE TROPICS.

Until Scriven recognized the disease in Europeans, and he himself in natives of India, more than thirty years ago, it had always been grouped among continued and remittent fevers. It now caused more deaths among the troops in India than cholera. Its prevalence was altogether independent of malaria; but intimately connected with rise of temperature. This would seem to emphasize the conditions upon which the production of its cause was dependent. He objected to the term "typho-malarial." He thought it would be as reasonable to call a case of smallpox ushered in by ague, liable to recur and modify the course and character of the exanthem, if not controlled and checked by quinine, "variolo-malarial fever." The etiology was exhaustively dealt with; and it was pointed out that, as contended by Sir Joseph Fayrer and others, "it was quite possible that the fecal filth-theory of causation might not cover the whole ground, and that the poison might perhaps thrive and propagate in other kinds of filth."

Sir Joseph Fayrer, in a paper on

SUNSTROKE AND THERMIC FEVER,

divided it into three heads, which might be concisely stated as (1) syncope from exhaustion; (2) an analogous condition in which the respiratory centre was seriously implicated; (3) overheating of the whole body —thermic fever of great intensity. The general effects of heat in leading to impairment of health were also carefully dealt with. The treatment consisted in reducing the temperature of the body; but, in doing so, undue depression of the vital powers was to be avoided. The lesions of insolation and thermic fever were more or less enduring. Hence, care must be exercised in allowing those who had been affected by them to return to work in tropical countries. As a very general rule, they were permanently disqualified for occupation in hot climates.

Dr. Laub, of Copenhagen, in a communication on

PERIOSTITIS CAUSED BY OVERFATIGUE AMONGST SOLDIERS,

said that periostitis caused by fatigue, almost exclusively attacked the tibia. It had a preference for young soldiers, recruits, and especially for individuals whose social position prevented them from making a forced use of their lower extremities. The anterior existence of slight traumatic affections was a predisposing cause, and the same might be said about convalescents after fevers. On the other hand, the predisposing conditions of dyscratic affections, as scrofula, phthisis, and syphilis, seemed doubtful. The disease generally came on by degrees, occasioned by continual marches, rarely by accident. The course of the malady was subacute; it was febrile, never suppurating, finishing by the formation of hyperosteal plates, the seat of which often corresponded with the point of origin in the muscles. Relapses were frequent, complications rare. In certain cases, patients should be treated by incision. In the civil population, the disease seemed to be very rare. Amongst Danish conscripts, its occurrence was explained, owing to the too short period of their training. This affection was unfavorable to future military service.

THE HYGIENIC PROTECTION OF AN ACTIVE ARMY AND THE SURROUNDING COUNTRY IN THE REAR.

Dr. Michaelis, of Innsbrück, treated this question under the following headings. A. He spoke of the history of war-epidemics, and of national and international powers making war. B. He summarized the means of protection: 1. Instruction of the people, of the soldier, especially of the officers, in military schools; 2. Laws of war-epidemics; 3. Military measures—preparatory, executive; 4. Civil measures—preparatory, executive; 5. Hospitals for war-epidemics; 6. Disinfecting institutions; 7. War quarantines; 8. Measures of protection on the dissolution of armies.

Dr. J. M. Browne, of the United States Navy, presented a sketch of

A RAPID TRANSIT AMBULANCE,

with the following remarks: This cot was designed by Surgeon Henry M. Wells, United States Navy, for the easy and rapid transportation of sick and wounded persons in hospitals, prisons, ambulances, police-stations, factories, steamers, and the army and navy. It is constituted of stout canvas, with thin hickory slots, about forty in number, five-eighths of an inch in width, and a quarter of an inch in thickness, thus forming a bottom of spring slots, like a mattress, giving it sufficient stiffness laterally, and permitting it to adapt itself longitudinally to the form of the patient, rendering the support equable and comfortable. It is made to accommodate a person six feet in height, its width being two feet and a half, and the sides six inches in height. It has two poles made of hickory; without the poles it can be rolled up and carried under the arm, having a weight of ten pounds. There are five stout canvas handles on each side for lifting, so arranged that the cot can be carried at any angle required by the disability of the patient, or a person badly wounded or completely disabled. Two men on each side should be employed, each taking two handles. As the bottom of the cot adapts itself to the form of the body, it can be inclined to an angle of 45.0° without the sliding off of the patient. It can be used in the form of a chair, and carried by two persons. It is simple, compact, durable, and cheap, and is readily adapted for use without the stretcher-poles in handling the sick and wounded in narrow and tortuous stairways, ship-ladders, and gangways, in ambulances, hospitals, and wherever the disabled are to be moved. There is no metal in its construction, and it can be cleaned or scrubbed like a hammock. It is also intended as an army-stretcher or camp-cot.

Prof. Esmarch, of Kiel, opened a debate on

THE ANTISEPTIC TREATMENT OF WOUNDS IN TIME OF WAR.

The following principles were laid down in his address: 1. It is a pressing demand of humanity to grant in war to the wounded the protection and the benefits of the antiseptic treatment of wounds. 2. In order to meet this demand, it is necessary that all military surgeons should be perfectly familiar with the antiseptic treatment; the lower sanitary officers, hospital assistants, tenders of sick, and sick-bearers, should also be instructed in the principles of antisepticism. Not only the field-hospitals and sanitary detachments, but also the medical carriages of the troops, the knapsacks, and the bags of the hospital assistants, must be sufficiently provided with antiseptic dressing material. Every soldier should carry, in war-time, some form of bandage which, in case of need, could be used provisionally as a protective dressing. 3. All dressing materials should be packed as compactly as possible, and the bandages ought to be divided into various sizes to save time. 4. Corrosive sublimate has shown itself up to now to be the most efficacious of all antiseptic remedies. It might be adopted as the best means of impregnating the dressing material. 5. An impregnated sublimate material is therefore proposed as a compact dressing; the volume can be considerably reduced by compression. 6. From this sublimate material, small pieces of square size can be taken which are to be used as compresses for all kinds of wounds. Should one, for instance, choose a size of fifty centimetres square, one could use such a piece, folded from four to six times, as a first covering for the simple opening of a shot, whilst eight or ten such pieces, laid one upon another, could be used as a dressing for a large wound, as after amputations, resections, etc. 7. From the same material one could make bandages of a certain width and length, which could be employed for all kinds of wounds. For instance, as a normal bandage, a width of ten centimetres and a length of five metres should be chosen; the same could be used for wounds of various sizes; for fixing the gauze compresses, should a narrower bandage be required, the normal bandage rolled up could easily be divided by a sharp knife in two halves. 8. In case of need, a compress of optional thickness could be formed by laying the bandages one upon another. 9. A solution of carbolic acid, for the disinfection of hands and instruments, could hardly be dispensed with. Means must necessarily exist to produce quickly large quantities of this solution in the field-hospitals, as well as in the dressing-places. Large quantities of crystallized carbolic acid and measures must be taken for the field-hospitals. For the chief dressing-places, and sanitary detachments, it is recommended to take dissolved carbolic acid in small glasses, divided in such a way, that a dose put into a vessel of known measure (irrigator, bucket, etc.), would give a solution of a certain strength; otherwise, mistakes would easily be made by the sanitary staff in producing these mixtures. Carbolic spray can be dispensed with in field-practice, likewise protective silk and mackintosh; in case of need, the two latter materials could be replaced by varnished silk paper. 10. Should the dressing materials be used up, a new antiseptic material could be quickly produced. Sublimate should likewise be taken, dissolved in two and one-third parts of glycerine, in sufficient quantity; and the sanitary officers should be instructed to prepare antiseptic dressings out of the various materials, as wool, wadding, lint, jute, turf, or sawdust. 11. Iodoform powder in boxes can hardly be dispensed with for some kinds of wounds, but on the whole its antiseptic efficacy is not equal to that of corrosive sublimate. 12. Sublimated catgut of various strengths, and drainage-tubes of different calibre, must also be supplied. 13. Sponges should not be used; it is impossible to disinfect them. Pads and antiseptic material should be employed after first being dipped in a sublimate solution; they should be destroyed after use. 14. Surgical instruments should not have furrows, as they harbor infection; a superficial cleaning does not remove germs. 15. By using such a material all wounds can be dressed antiseptically, and be operated upon not only in the field-hospitals, but also at the chief dressing-places. 16. When a strict antiseptic dressing cannot be accomplished, as for instance in the first dressing-station of the troops, the principle of treatment must be borne in mind, "Do not do any harm." 17. The wound should not be examined with fingers or instruments which are not surgically clean (aseptic), because there are always particles of putrefaction on fingers and instruments which have not been cleaned; and these sources of putrefaction are absorbed and cause inflammation, festering of the wound, etc. Exceptions from this rule is only made in case of dangerous hemorrhage. 18. Bullets must not be extracted without antiseptic precautions. A projectile in the body forms alone only a small injury. Many bullets heal in without causing lasting injury. Experience teaches that very serious wounds of the bones, joints, sinews, nerves, lungs, heart, brain, which the bullet has caused on its way, heal if there have been no entrance of the producers of putrefaction. 19. Where there is no strict application of antiseptic (for instance in the dressing-places of the troops), surgeons should abstain from operation. The only course left to them is to put on provisionary bandages; that is to say, to cover the fresh wounds freely with antiseptic material, in order to protect them from being penetrated by the producers of putrefaction; to keep quiet the injured parts of the body, to make them immovable by linen splints, gibs, dressing, etc.; to send the wounded as quickly as possible where there is a chance of dressing the wounds strictly antiseptically. 20. After the arrival in the field-hospital of a wounded man whose wound has been dressed provisionally, and where there are no symptoms which make a closer examination of the wound necessary, such as fever, pain, bleeding, etc., the wound should be left untouched, and not even the first occlusive dressing should be removed; for many shot-wounds can heal without pain or fever, and other accidental wound-diseases, under the first dressing. 21. But should anything occur which necessitates an examination of the wound, then the dressing must be taken away at once, and an energetic antiseptic treatment of the wound must be undertaken. For this purpose (besides in greater operations, amputations, resections, etc., which may be necessary), what, above all is required, is drainage and thorough disinfection with effective antiseptic remedies, chloride of zinc, sublimate, iodoform, and afterwards the application of the antiseptic bandage. 22. The sick-bearers, when there is a dressing-station at hand, should carry the wounded as carefully as possible on the stretcher, and take them as quickly as possible to the dressing-place. 23. Only in those cases where there is no medical help in the vicinity, or where dressing-material cannot be obtained, should the bandages the soldiers carry themselves be used by the wounded, or by the sick-bearers, especially in the cavalry. They must also contain, besides the antiseptic dressing-material, a triangular cloth, with which the protective dressing must be covered, the wounded member be fixed, and eventually an improvised splint can be fastened.

Prof. Neudörfer, of Vienna, contributed some very important observations to the discussion, chiefly confining himself to the question of surgical hemostasis in time of war. He said that there were a number of points, still the subject of controversy, which required settling; for instance, the physical circumstances and qualities attending gunshot wounds; the hydrostatic effect of projectiles on the vault of the skull and hollow bones; explosive qualities at certain distances; the temperature of the exploding projectile, etc. All these points had an influence on wounds and on hemorrhages. It was desirable to have statistics as to the rate of percentage of those dying from bleeding on the battlefield, as well as of those who had to be protected by the surgeon from bleeding to death; and, finally, the rate of percentage of those who were threatened with secondary hemorrhage. On the battlefield, for those in the first line, he recommended compression by means of elastic webbing as an hemostatic agent. This should be done on the spot. It was desirable to fix the value of different methods of hemostasis. Amputation must not be taken into account as an hemostatic agent.

After a few remarks by **Prof. Salomon**, the President of the Section,

Sir William MacCormac, of London, said that he had listened with great attention to the addresses of Professors Esmarch and Neudörfer, and he only proposed to indicate the principles on which large numbers of wounded on the battlefield, and immediately afterwards, might be most effectively dealt with. The manner of dealing by the antiseptic method of the wounded in battle was surrounded by many practical difficulties. From his experience, he might lay down a few principles. It must not be expected to have on the battlefield civil hospitals. Much might be done by proper distribution of men, and by prompt attention, to provide for the immediate wants of the fighting force in front; moving, as quickly and as carefully as possible, the wounded to a place of safety. How far was it practicable to apply antiseptic methods on the battlefield? As a rule, first dressings were not successful. In the Ashantee war, the first dressing did not adhere to the wound, as it was creased. He spoke favorably of the triangular bandage, and of iodoform, which promised the best results if mixed with glycerine. He dwelt on the usual requirements of field-hospitals; and observed that in savage wars, owing to the long line of communication and distance from the base, field-hospitals had to be kept up near the fighting line.—*British Medical Journal*, September 20, 1884.

CORRESPONDENCE.

INTRAVENOUS INJECTIONS.

To the Editor of The Medical News.

Sir: The editorial article on "Intravenous Injections," in your issue of to-day, calls attention to a therapeutic measure which I am sure, from my own experience, deserves further trial in this country, and I beg leave to refer to an article in *The Medical Record*,[1] of January 5, 1884, in the hope that practitioners may be encouraged to furnish additional evidence of the merits of this operation as a substitute for transfusion of blood. Nineteen cases were tabulated, all of which were from foreign sources except five from my own service, and one each from Dr. Weir and Dr. Halsted, of this city. The result was (19 cases), recovery in thirteen cases, temporary recovery from collapse in three cases, and but a passing improvement in the remainder. It will, perhaps, enable some of your readers to try the operation, if you will permit me to quote the last two paragraphs of the article referred to. They are as follows:

"In order to have ready a vessel convenient for the operation, Mr. Ford, of Caswell, Hazard & Co., has made for me a tubulated bottle (graduated), with rubber tubing, to which a canula can be attached by means of a metallic coupling.

"The salts are kept in a small phial. A trocar and also a blunt stylet are added, in order that one may puncture the vein with the former, or after opening it guide the canula into it on the latter instrument. An ordinary glass or metallic irrigator, or a funnel with tubing attached will do about as well. Let the solution (water, ℥xxxij; chloride of sodium, ʒjss; carbonate of soda, gr. xv), warmed to 100° F., flow from a height of two or three feet in the course of fifteen or twenty minutes. The canula should be no larger than a medium-sized aspirator needle, one-sixteenth inch in diameter; the apparatus disinfected with three per cent. solution of carbolic acid, and antiseptic precautions observed in operating. Choose the arm in which a well-distended vein can be seen at the bend of the elbow, and failing to find one secure the radial artery, and inject the fluid into its central end."

Your obedient servant,
W. T. Bull, M.D.

35 West Thirty-fifth St., New York,
September 20, 1884.

NEWS ITEMS.

The Organization of the Washington International Medical Congress.—The Committee charged with the organization of the Ninth International Medical Congress, to be held at Washington in 1887, is constituted as follows:

Drs. Austin Flint, of New York; I. Minis Hays, of Philadelphia; Lewis A. Sayre, of New York; Christopher Johnston, of Baltimore; George J. Engelmann, of St. Louis; J. S. Brown, of U. S. Navy; and J. S. Billings, of U. S. Army.

We learn that the Committee will meet at an early day to consider the preliminary arrangements for the organization of the Congress.

American Public Health Association.—The opening session of the Twelfth Annual Meeting of the American Public Health Association will be held at St. Louis on Tuesday, October 14th, in the Main Hall of the Liederkranz Building, S. E. corner of Thirteenth Street and Chouteau Avenue.

The headquarters of the Association during the meeting will be at the Southern Hotel.

The National Conference of the State Boards of Health, postponed from August 7th, at Washington, will also be here during the same week.

Delegates and their families paying full fare to St. Louis will be returned at one-third of the lowest unlimited rate, on certificate from Secretary. To procure this reduction, it will be necessary to have the ticket agent, at starting-point, fill out a certificate with the form and number of ticket purchased, route and amount.

International Otological Congress. The Third International Otological Congress was held at Basle, Switzerland, from the 1st to the 5th of September, under the presidency of Dr. A. Burckhardt-Merian, of Basle. The proceedings were opened on Monday at the hall of the University, by addresses from Dr. Sapolini, of Milan, the retiring president, and Dr. Burckhardt-Merian, the president-elect. Addresses of welcome to the town of Basle were delivered by Counsellor Schenk, on the part of the Swiss Federation, and by a delegate from the Canton of Basle. A breakfast, given by the Swiss surgeons to the members of the Congress, followed. On Wednesday the members of the Congress were entertained at a banquet. During the three following days about forty papers were read, and demonstrations were given on subjects bearing on Otological science, all of a most interesting, instructive, and original nature. The principal contributors were Politzer, of Vienna; Moos, of Heidelberg; Guye, of Amsterdam; Sapolini, of Milan; Geile, of Paris; His, of Leipzig; Hartmann, of Vienna; Lowenburg, of Paris; Kuhn, of Strasburg; Albrecht and Delstanche, of Brussels; and Pritchard, of London. It has been arranged that the next Otological Congress be held in Brussels, in 1888.—*British Medical Journal*, Sept. 20, 1884.

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[1] On the "Intravenous Injection of Saline Solutions as a Substitute for Transfusion of Blood," a paper read before the Practitioners' Society, New York, December 7, 1883.

OBITUARY RECORD.—DR. FLEETWOOD CHURCHILL, F.K.Q.C.P., died suddenly, on September 6th, at his residence in London, of heart disease. At the time of his decease he was 51 years of age. He became a Licentiate of the Royal College of Surgeons in Ireland in 1853. He then settled down as District Surgeon and Health Officer at Simons's Town, Cape of Good Hope. After several years' residence here he returned to Dublin, his native city. In 1862 he joined the King and Queen's College of Physicians as Licentiate in Medicine. In 1868 he became a Fellow of the College, and also a Licentiate in Midwifery. He was chosen as physician to various hospitals in Dublin, and was the editor and joint author of his father's, Fleetwood Churchill, Sr.'s, work on *Diseases of Women*.

NOTES AND QUERIES.

PENSION SURGEONS.

To the Editor of THE MEDICAL NEWS.

SIR: I have read with interest, in *The Century* for July, the article on the "United States Pension Office," and while it is my belief that the general sentiment of the paper toward the pensioners is unjust, yet my special object in writing this note is to express an opinion in regard to the writer's proposition to do away with local boards of examining surgeons. He says, "The applicant is referred to examining surgeons near his own home. Here is another weakness in the system. The surgeons are local physicians; their natural disposition would be to favor the applicant, as a neighbor and acquaintance, perhaps a patient."

Contrary to this opinion, I believe this to be an efficient safeguard. The very fact that the examining board is composed of local physicians of respectability and extended acquaintance would cause an intending fraudulent applicant to hesitate to press his unjust claims. The law requires that the three members of each board must individually, in the presence of the whole board, examine every applicant. Suppose the man has some disease that is intermittent in its exacerbations—*e.g.*, asthma, hemorrhage of the lungs—the fact that the man was a patient of a member of the board, or of some physician known favorably to the board, would justly be of great value in getting the facts about a worthy or unworthy claim. Further on, the writer for *The Century* says: "There is little reason why they" (the examining surgeons) "should feel called upon to protect the Government treasury." That "little reason" is an oath which each examining surgeon takes. "They get their fees whether they decide favorably upon a case or not." It would be strange to have the fee paid the surgeon providing he failed to recommend the applicant. "It does not follow that they" (the examining surgeons) "are dishonest because they credit an applicant's account of his ailments, and let him make the most of his symptoms." Those interested can find in the certificates of the examining surgeons many such statements as these: "Applicant says he has frequent attacks of diarrhœa; but we have only his word for it, and can make no recommendation." In other words, the board of surgeons make recommendations only on what they know. They may say: "If the Department has proof corroborating such and such a statement of the applicant, we recommend a certain rating." In conclusion, the writer recommends "Travelling Boards of Government Surgeons, instead of civil physicians." I doubt not that a "travelling board," sent out from Washington, would be composed of honorable and just men; but that all the official honor of the country emanates from the neighborhood of the capital I have temerity enough to question. The great additional expense of a perambulating board over the "civil board" is also worthy of some consideration. The respectable, studious, busy physicians of any city are not the persons a man would select to participate in a crime.

Yours, very respectfully,

WALTER LINDLEY, M.D.,
Member of the Board of United States Examining Surgeons.

LOS ANGELOS, CAL., August 26, 1884.

THE DANGER OF GLASS VAGINAL DILATORS.

To the Editor of THE MEDICAL NEWS.

SIR: An anonymous correspondent, in your issue of August 2d, details his experience in removing a glass dilator which had suddenly "broke with an audible report," while in his patient's vagina and without being subjected to any violence. He also speaks of having seen a tumbler "unaccountably fly to pieces without any apparent external agency."

His experience is not unique, nor is the explanation of the phenomenon difficult. The glass, in these cases, has not been properly annealed; its particles are on a strain, as in the familiar Prince Rupert's drop, and anything which causes a slight disturbance of the particles, produces an explosion. While visiting the laboratory of the Michigan Agricultural College, a few days ago, I was shown by Prof. Kedzie a piece from a lamp which had exploded while unlighted, and standing on the table. On looking at this piece through a polariscope, the dark cross was plainly marked. That this was due to the particles being subject to strain, was then shown as follows: on looking at a piece of ordinary glass, no cross could be seen through the polariscope, but on subjecting this piece to great pressure in a vice, the cross at once appeared, as with the piece of the lamp.

If, therefore, our gynecological friends propose to continue to use these glass implements, it perhaps would be well for them to examine each one with the polariscope before introducing it.

Yours, etc.,

J. F. BALDWIN, M.D.,

COLUMBUS, OHIO.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 23 TO SEPTEMBER 29, 1884.

WHITE, R. H., *Captain and Assistant Surgeon.*—Assigned to duty as Post Surgeon at Fort Winfield Scott, California, relieving Assistant Surgeon A. S. Polhemus, who, upon being relieved, will report to Commanding Officer, Alcatraz Island, California, for duty.—*Par. 1, S. O. 113, Headquarters Department of California*, September 19, 1884.

HALL, JOHN D., *Captain and Assistant Surgeon.*—Assigned to duty at Fort Townsend, Washington Territory, to relieve Surgeon R. S. Vickery. Surgeon Vickery, on being relieved, directed to report to Commanding Officer Vancouver Barracks, Washington Territory, for duty.—*Par. 3, S. O. 140, Headquarters Department of California*, September 15, 1884.

TESSON, L. S., *Captain and Assistant Surgeon.*—Directed to report to Commanding Officer Fort Stockton, Texas, for temporary duty.—*Par. 3, S. O. 127, Headquarters Department of Texas*, September 22, 1884.

BIRMINGHAM, H. P., *First Lieutenant and Assistant Surgeon.*—Leave of absence extended twenty days.—*Par. 2, S. O. 116, Headquarters Division of the Missouri*, September 22, 1884.

MADDOX, T. J. C., *First Lieutenant and Assistant Surgeon.*—Directed to report to Commanding Officer Post, of San Antonio, Texas, for duty.—*Par. 5, S. O. 127, Headquarters Department of Texas*, September 22, 1884.

BARROWS, C. C., *First Lieutenant and Assistant Surgeon.*—Leave of absence extended one month.—*Par. 6, S. O. 97, Headquarters Division of the Pacific*, September 19, 1884.

DIETZ, W. D., *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Fort Selden, New Mexico. (Post Surgeon).—*Par. 4, S. O. 187, Headquarters Department of Missouri*, September 18, 1884.

McCAW, W. D., *First Lieutenant and Assistant Surgeon.*—Assigned to duty as Post Surgeon, Fort Craig, New Mexico.—*Par. 5, S. O. 187, Headquarters Department of Missouri*, September 18, 1884.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLV. SATURDAY, OCTOBER 11, 1884. NO. 15.

ORIGINAL LECTURES.

VERSIONS AND FLEXIONS OF THE UNIMPREGNATED UTERUS.

A Course of Lectures delivered before the Boerhaavian Society.

BY ELY VAN DE WARKER, M.D.,
OF SYRACUSE, N. Y.; FELLOW OF THE AMERICAN GYNECOLOGICAL SOCIETY.

LECTURE IV.

SYMPTOMS.

IT will aid us in the study of the most difficult part of our subject to make two great groups of the symptoms;—those that relate to the uterus and ovaries, and those referable to near parts.

A. Symptoms referable to the uterus and ovaries.

a. Disturbance of function. 1. Menstrual irregularity. In the developmental form of flexion menstruation is often both scanty and irregular. The two conditions are quite generally associated. This results less from an impoverished condition of the blood than from an under-development of the uterus and ovaries. In a uterus of impaired size menstrual congestion is defective, and the secretion of the uterus, if present at all, is proportionately scanty. When chlorosis is present at the same time the menstrual function is often suspended, or is scarcely evident.

In acquired forms of versions and flexions, amenorrhœa may be due to impoverished blood (Sommer, Rockwitz). Many authors (Trier, Cackner, Hueter) express the opinion that in flexions the menstrual secretion is not only increased, but extends beyond the term of the period. The intervals between the menstrual periods were irregular,—as frequently shortened as prolonged. Such cases as these were often attended by a fixed pain in the regions of the sacrum and hypogastrium (Scanzoni).

Scanty menstruation is symptomatic of some varieties of flexions. In old displacements, due to shrinking in one or both round ligaments, and in those caused by adhesive exudation upon the peritoneal, anterior uterine surface this symptom is present (Martin). The same menstrual characteristic prevails, as a rule, in versions or flexions caused by arrest of development in either uterine wall. Menstruation is very short, as a rule, in flexion of the cervix; and the contrary in flexion of the body of the uterus. In cases of long-standing retroversion, or in which the circulation is very much obstructed, menstruation is very commonly irregular, painful, and scanty (Emmet). Between ante- and retroversion no practical difference is observed; thus, the last-named author observed that in anteversion, menstruation was too free in 18 per cent., scanty in 20, and unchanged in 63 per cent.; and in retroversion, 13 too free, 17 scanty, and unchanged in 58 per cent. Flexions were noticed to exert a greater influence on the regularity of menstruation as to time. In flexion of the cervix 15 per cent. were regular and 12 per cent. never regular; in anteflexion 22 per cent. were regular, 9 per cent. irregular, and in retroflexion 10 per cent. regular, and 3 per cent. irregular. Nothing symptomatic can be inferred from this, for 9 per cent. of Emmet's total of cases were irregular as to time, fruitful and sterile alike. It is evident that Emmet mistakes cause for effect when he says that "want of regularity seems to have been some bar to fruitfulness."

2. Dysmenorrhœa was observed by Emmet to exist in 32 per cent. of the cases of anteversion, and in 34 per cent. of retroversion. In retroflexion the same condition was noted in 35 per cent., based upon a total of 28 cases, and in anteflexion 68 per cent. of the cases showed the same symptom. These ratios are based upon too small totals to give anything more than probabilities. Painful menstruation was noticed in 152 cases of flexion of the cervix, of which 59+ per cent. had pain at the beginning, 9+ per cent. had pain during the flow, and 30 per cent. were free from pain. Emmet remarks, that in flexion of the cervix pain at the beginning of the flow was the rule, and during the flow the exception. Emmet's tables show that the existence of pain at any time during the flow had but little influence upon the duration of menstruation.

Dysmenorrhœa may be an almost invariable attendant on certain forms of versions and flexions. In the different groups described by Martin it was observed from the beginning of the function in versions or flexions due to defective development or contraction in one or the other uterine wall. One-third of the cases in this group showed stenosis of the canal of the cervix. In old-standing cases of anteversion or anteflexion due to defective involution of the posterior uterine wall, dysmenorrhœa was very commonly noticed; while in the opposite forms of displacement due to the same cause operative upon the anterior wall, this symptom was not so frequently present as in other groups of flexion. In cases involving fixation, as in anteversion or flexion caused by contraction of one or both round ligaments, or by exudation on the anterior uterine wall, and in the opposite forms of displacement due to contraction of the ligamenta pubo-vesico-uterina, or of the anterior vaginal vault, and in those the result of contraction of the ligamentum ovarii with fixation, painful menstruation was the rule. In the latter group the vaginal portion was often small, and in those who had never borne children stenosis of the cervix was present, which may have been a factor in this result.

The condition that leads to dysmenorrhœa in flexions seems clear enough at the first glance, yet good authorities differ upon this subject. Routh states that it is only when the fundus is inflamed that pain in menstruation is present, and that in congenital (developmental) flexions no pain is present. Squarey believes that the pain indicates obstruction rather than flexion, and presumably in the absence of stenosis of the canal of the cervix, the dysmenorrhœa depends upon fixity of the fundus with reference to the cervix. In such cases any attemp to lift the fundus causes great pain. A reflex neuralgic element enters into the composition of the pain of menstruation in flexions or versions, which precedes menstruation two or three days, and occurs in the stomach, back, loins, or thighs, sometimes attended by vomiting and headache (Squarey).

Sommer, in explanation of the cause of flexion dysmenorrhœa, assumes a venous stasis of the uterine parenchyma, due to an obstruction of the circulation caused by the stretching of the broad ligaments; and that this condition is greatly augmented at the menstrual periods, at which time there is, habitually, a hyperæmia of the whole sexual apparatus. The onset of hemorrhage in consequence of the rupture of the capillaries of the uterine mucous membrane, relieves the venous hyperæmia. With a free escape of the retained fluid, the pain ceases at this stage; but, in case of obstruction, the contents of the uterus are forced out by strong expulsive efforts. In the highest degree of flexion, at the beginning of the menstrual process, the pressure in the distended cavity causes an increase in the obstruction of the cervical canal; but as the accumulation of blood in the cavity of the organ continues, the distending force tends rather to straighten the axis of the uterus, and thus a more easy escape of the uterine contents is permitted. Sommer's explanation is partly corroborated by Emmet's observation that painful menstruation is the rule in retroversion. Hueter says that from this cause the uterine axis may not only be straightened, but the body of the organ distended to such an extent that it cannot be retained in the cavity of the small pelvis—a result that seems doubtful. The escaped blood may be either fluid or coagulated. Rockwitz believes in this rectification of the uterine axis by menstrual distention. A strong degree of uterine corporeal congestion, and consequent expansion of the parenchyma of the organ and compression of the nerve-fibres, may be a further cause of flexion dysmenorrhœa. Of equal importance in explanation of dysmenorrhœa is the hyperæmia of the peritoneal covering of the inner genitalia when covered by the products of adhesive inflammation. Every increase of the hyperæmia due to menstrual congestion may tend to develop more or less acute local peritonitis, and which, by itself, may be a source of pain.

3. Sterility and abortion, widely different as they are in a physiological sense, are yet closely related as symptoms of versions and flexions of the uterus. All authors admit the importance of these uterine malpositions as causes of sterility and abortion. Gardner, who sneeringly speaks of these dislocations as defined by a nomenclature more exact than useful, nevertheless gives them importance as causes of these conditions. One of the latest writers on sterility, Mayrhofer, gives these displacements but imperfect mention.

Persistent sterility is among the few conditions that may be absolutely symptomatic of a flexion or version of the uterus. Emmet, in his recent work, which must be regarded as the most extensive and scientific embodiment of an individual experience extant in gynecic literature, has tabulated his experience upon the relations of sterility to flexions. In flexions of the cervix among married women, the sterility was nearly total—94 per cent., and more than half with anteflexion of the body were unfruitful. Of 100 cases of retroflexion observed by Hewitt, 12 exhibited absolute sterility; and of 135 cases of retroflexions, 45 were sterile. Martin regards sterility as total in certain groups of versions or flexions. In the group defined by defective development, or contraction of the posterior uterine wall, and in anteversion or flexion due to the same conditions of the anterior uterine wall, all married cases were infertile. The subjects of these two groups were small, weak women. In another group of displacements, caused by extrauterine pressure on the posterior wall of the organ, sterility was the rule.

Abortions are intimately blended with the etiological relations of these displacements of the uterus; and that in consequence of versions and flexions abortions are produced, is an opinion held by Meissner, Siebold, Mundé, Hensley, Kiwisch, Rockwitz, Sommer, Picard, Klob, Hueter, Hewitt, and many others. According to Hewitt's statements, abortions are more frequent in anteflexion than in retroflexion. In the developmental flexion, abortions are the direct outcome of mechanical causes, since the small and unsymmetrical uterus cannot expand without exciting inhibition on the part of the contracted ligaments, thus causing early expulsive uterine efforts. Hueter traces this mechanical factor to the production of abortions in the acquired forms of versions or flexions. The fact has already been stated that in these dislocations of the uterus the flow of venous blood from the organ is difficult in the unimpregnated uterus, and so much the more—reasons Hueter—is this the case in the impregnated condition. By this mechanical hyperæmia the uterus is rendered heavier, and the degree of flexion more acute, resulting in a passive congestion which gives occasion to a separation of the utero-placental attachment, an abortion resulting in due course. In the early weeks of impregnation, the uterus tolerates a considerable degree of retroversion, and which may, to a certain extent, be regarded as normal.

4. Impotency, while it may exist as the direct outcome of versions or flexions of the uterus, will not, from the nature of the symptom, appear among the subjective evidences of these dislocations of the organ, except on careful examination. In the developmental flexion, the absence of sexual desire seems a necessary result of the defective development of the whole genital apparatus. It may be said to be almost universally present in those cases in which the subject is pale, slight, and of low vitality; but even in well-developed women this symptom is often present, but rarely complained of, in cases of versions or flexions of long standing, in which the health has given away before the disturbance of the general nervous system. Martin observes that, in the group of flexions or versions characterized by defective development, or contraction of the posterior uterine wall, sexual desire is usually remarkably slight. This, no doubt, holds equally true as to the forward displacements, due to the same conditions, of the anterior wall.

5. Dyspareunia, a term Barnes has invented to define painful sexual intercourse, is frequently present as a symptom of versions, or flexions, and especially of the backward variety. This is generally due to the male member impinging upon the hypersensitive posterior uterine wall. This symptom is often wanting, however, in cases in which from the exquisite tenderness of the parts it ought, theoretically, to be present. This may be due to the intense emotional exaltation at-

tending the act; or, as has been already suggested, to the erectile function of the uterus, and the consequent rectification of the dislocated axis of the organ. The extent of the vagina is often encroached upon by an extremely depressed fundus occupying the posterior vaginal pouch, interfering with the copulative act. In case fixation exists, the act may be nearly impossible. In developmental flexions and versions the act is often distasteful, if not painful, owing to the faulty development of the vagina. Martin has noticed that in retroversions or flexions caused by contraction of the ligamenta pubo-vesico-uterina, or by contraction of the anterior vaginal vault, in cases that had existed before marriage that relation was not well tolerated.

b. Hemorrhage, in the form of menorrhagia, or metrorrhagia, is a symptom of very general application in uterine disease. Barnes believes that the conditions which lead to hemorrhage from the uterus are of great etiological value in versions and flexions, and, consequently, have more or less of symptomatic bearing upon these displacements. Many authors, already cited, have expressed the opinion that in these uterine deviations the menstrual secretion is not only increased, but prolonged beyond the normal limits of the period. Scanzoni states that a large number of cases of flexions first declare themselves in this manner (Hueter). According to Kiwisch, the menorrhagia, or metrorrhagia, is more frequent and considerable in retroflexions than in anteflexions, although in the latter it is often an important symptom. These symptoms defined in part on the relaxation of the uterine tissue, and in other instances on the collection of blood in the uterine cavity above the seat of the flexion, and consequent distention of the walls of the organ—a state favorable to hemorrhage. In these cases hemorrhage may become aggravated to such an extent as to become dangerous to life. These attacks may be brought on, or increased, by exertion or mental disturbance. The cause of the hemorrhage Sommer has explained by stretching of the broad ligaments causing a venous obstruction and consequent blood stasis in the uterine parenchyma, and that this condition is greatly augmented at the menstrual periods. In the versions or flexions due to defective involution of either uterine wall, hemorrhage is very generally an important symptom. In one of these groups this symptom was present in 84 out of 205 cases. Martin believed that many of these cases of flexion hemorrhage were caused by erosion and relaxation of the mucous membrane of the uterine canal. In forward displacements, caused by extrauterine pressure on the posterior wall of the organ, chronic hemorrhage and profuse menstruation were frequent symptoms. Cases of retroflexion, or version, caused by contraction of the ligamentum ovarii, and by the fixation of the latter, exhibited this symptom in a large proportion. Hemorrhage, in any form, is of extreme rarity as a symptom of the developmental flexion or version, and when present it is generally due to accidental conditions.

c. Symptoms due to inflammatory conditions existing in the pelvic cavity that hold etiological relations to versions or flexions have more or less value in defining these displacements. Inflammatory conditions that do not hold these relations have too remote connections to be considered here. The same may be said of adhesive inflammation of the pelvic peritoneum, which, often existing causatively to the displacement, has too general a bearing to be considered. The sense of pain in the region of the sacrum in anteflexion, and in the lower bowels in retroflexion, is explained by Hueter as the result of strain and tension upon the ligaments. This explains very perfectly the increase in this pain by efforts at defecation, or during the menstrual period, at which time, by the increase in the size and weight of the uterus, traction upon the ligaments is augmented, to the great increase of the pain. The larger and heavier the uterus is, and the less the ligaments respond to the strain put upon them, the greater proportionally is the pain. Numerous authors speak of the pressure, weight, and sense of fulness in the pelvis complained of in versions and flexions of the uterus. This usually occurs when the displaced organ is in an enlarged condition, and which enlargement is generally in the uterine parenchyma and complicated with chronic metritis. In connection with this condition, if the vagina is relaxed so that a prolapsus of the uterus is possible, the sense of weight or bearing-down is explained. As you will have noticed, it is impossible to regard this group of symptoms except in many conditions other than those of versions and flexions of the uterus. In old or recent versions, or flexions caused by defective involution of the uterine wall, the result of puerperal processes, the majority complain of increased sensibility on pressure in the hypogastrium and groin, associated oftentimes with painful weight and bearing down. In displacements due to contraction of the ligamentum ovarii with fixation, Martin speaks of pain and tension in the groin of the affected side.

d. Catarrhal conditions of the uterus and tissue-changes like those noticed in the last group of symptoms (*c*), relate to versions and flexions of the uterus, but in an indirect manner. The factors leading to a hyperæmic state of the mucous lining of the uterine cavity have already been stated, and in menstrual periods result in menorrhagia, while in the intervals a morbid amount of mucus is secreted. This blennorhœa, attended with pain, has been regarded as symptomatic of flexions by Meissner, Colombat, Kiwisch, Sommer, Rockwitz, Trier, Depaul, Valleix, Detschy, West, Scanzoni, Säxinger, Hueter, Hewitt, and others. Quantitative and qualitative changes in the catarrhal secretion are, according to Kiwisch, very considerable. Beigel, however, after a very careful examination of these discharges, does not regard any change as peculiar to flexions. Occasionally it appears as a serous discharge, and becomes now and then so profuse that it resembles a hydrorrhœa, and at other times pus. When the secretion is retained in the uterine cavity above the seat of the stricture, and distends the walls of the organ, pain is caused, which quickly disappears on the expulsion of the excess of the secretion. Oftentimes there is an interchange of the catarrh with the menstrual secretion. In many cases the blennorrhœa continues with the catamenia, and profuse menstruation and copious blennorrhœa is the form; or, when the blood escape is small, the latter discharge is profuse. When the discharge is very considerable its expulsion may be attended with uterine colic. The escape of the blennorrhœal secretion is often attended with almost uncontrollable itching and burning in the external genitals, and now and then by erosion of the vagina and outer parts. The relaxation of the mucous membrane is always attended with an exfoliation of the epithelium, and which furnishes the occasion for erosions, excoriations, and ulcers. Sommer distinguishes in these discharges two forms, namely, that of Kiwisch, the phlegmorrhœa uteri, a hypersecretion of the uterine mucous membrane without essential qualitative changes; and, secondly, the catarrh of the uterine mucous membrane with changes in form and composition. The seat of the phlegmorrhœa is in the cavity of the body of the uterus, and is explained by the author as due to the proportionally excessive hyperæmic condition of the body to the neck of the organ. As the neck is equally involved in flexions with the body of the organ, the congestion of this part, owing to its glandular activity, exceeds that of the body, and the hypersecretion of the uterine flexion is mainly that of the cervix. When the hypersecretion is an expression of the disease of the entire uterine cavity, the consequences are more serious than when the disease is confined to the neck. In the first case the mucus is confined to the cavity of the body of the uterus, and escapes with the symptoms of uterine colic; while in the second case the escape of the mucus is not retarded. Sommer must be in error when he states that the uterine mucus has in these cases lost its physiological acid reaction and become alkaline.

Martin regards the morbid hypersecretion as due, not to the flexion, but to the frequently attending endometritis. He adduces numerous cases, in which long-existing flexions, as in those of multiparæ, were unattended by catarrh. Martin states that the opinion of Scanzoni and Rockwitz, that the addition of hemorrhage to the catarrh is a necessary attendant of uterine flexions, is not proved.

Nothing in ulcerative processes, granular erosions, or papillary hypertrophy of the os externum is symptomatic of versions or flexions of the uterus. In displacements backwards caused by contraction of the ligamenta vesico-pubo-uterina or of the anterior vaginal vault, Martin noticed very frequently a narrow rim of granular erosion about the external os. Anteversions or flexions caused by delayed involution of the posterior uterine wall, either of long standing or recent creation, were observed to be attended by old, or recent erosions or ulcerated condition of cervix (ulcera puerperalia). While these conditions may hardly be regarded as accidental, yet they do not define in any way the flexed uterus.

e. Symptoms of versions and flexions of the uterus referable to the ovaria are of doubtful value in this relation and when purely of that origin are rarely met with. Dr. Routh alludes to a very painful form of retroversion, in which pain in the fundus of the uterus was most acute, attended with but little, if any, congestion or inflammation. Such pain was reflected from the ovary, the fundus uteri being supplied with a nerve-branch from the ovary, like the knee pain in hip-joint disease. Priestley asserts that the pain in flexions is largely due to ovarian neuralgia. A fixed, dull pain in the ovarian region is not unusual in versions and flexion of the uterus, especially of the backward variety. Such a pain is, however, not rare in many other forms of uterine disease.

f. The vagina is sometimes prolapsed in old anteversions, or flexions, the result of defective involution of the posterior uterine wall. The prolapse involves the anterior wall of the passage, and is, now and then, complicated with cystocele. This disappears on the occurrence of a subsequent pregnancy. Twenty per cent. of the cases of retroversions, or flexions, caused by the above condition of the anterior uterine wall observed by Martin, were complicated by colpitis, but due, the author believes, to adventitious circumstances. Pruritus vaginæ, or vulvæ, is often noticed in versions or flexions of the uterus, and when not a purely hysterical symptom, is the result of the irritation of the mucous membrane of the passage by morbid uterine secretion. Martin has observed in recent cases of anteflexion, caused by delayed involution of the posterior uterine wall, pain and tenderness in the anterior portion of the labia, more severe on one side than the other.

In the concluding lecture upon this branch of the subject, we shall analyze those symptoms due to disturbance of near parts.

ORIGINAL ARTICLES.

CONTINUOUS INHALATION AS PRACTISED WITH THE YEO RESPIRATOR. TWO YEARS' EXPERIENCE.

BY SOLOMON SOLIS COHEN, A.M., M.D.,

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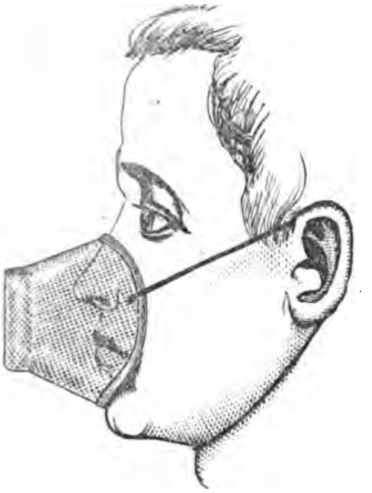
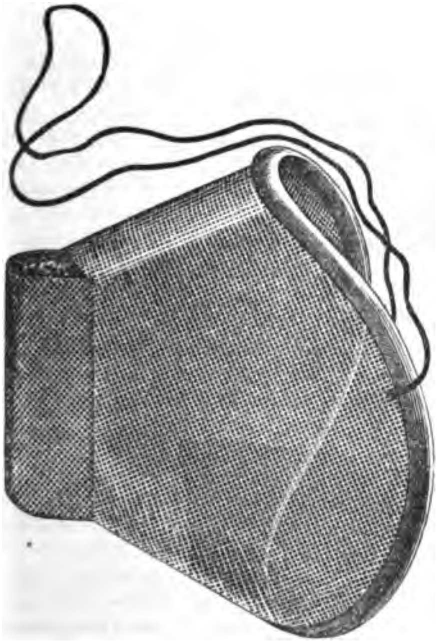
CONTINUOUS inhalation of a volatile medicament by means of an apparatus worn over the nose and mouth—a so-called "*respirator*"—is by no means a novel idea; but the cost and clumsiness of most of the appliances devised for the purpose have until recently prevented this method of treatment from being carried out upon a sufficiently extended scale to afford a reliable test of its efficiency. Dr. I. Burney Yeo, of London, described and figured in the *British Medical Journal*, for July 1, 1882, a respirator constructed of perforated zinc bound with chamois skin, shaped to cover both nose and mouth, which carries a sponge upon which the medicament desired to be inhaled can be dropped, and which is retained in position by means of a pair of elastic loops passed around the ears. The lightness of this appliance, its cheapness, and its cleanliness, commend it as the best device for the purpose yet offered to the profession. Until within a few months it has been impossible to obtain the respirators in this country, and those used in the cases upon which this article is based, were imported. Messrs. Wyeth & Bro., of this city, are now manufacturing them, however, with a slight change in style suggested by Dr. J. Solis Cohen. This modification consists in placing the sponge within a little cage formed by a fold of zinc in the front of the respirator, instead of retaining it in position by elastic bands. The shape and size of the respirator, as made by the Messrs. Wyeth, and the manner of using it are shown in the annexed cuts.

The material of which the respirator is made being pliable, it can be accurately fitted to the face. The shape being adjusted, the sponge is wetted with hot or boiling water, and the medicament dropped upon it. The respirator is then fastened around the ears, and worn for such period as may be directed by the physician, or practicable for the patient. In many cases, the patient being engaged in his business occupations during the day, will consent to wear the respirator at night only. Some patients can sleep in them, others find it impossible to do so. The following are the substances recommended by Dr. Yeo for inhalation: creasote, liquefied carbolic acid, spirit of turpentine, eucalyptus oil, terebene, spirit of camphor, solution of tar in rectified spirit, tincture of benzoin, and tincture of iodine. He uses of these five minims, either alone or mixed with an equal quantity of spirit of chloroform. Of course, any drug volatile at ordinary temperatures can be employed, but the list given by Dr. Yeo embraces nearly all which have been found of value in daily practice. I would add to it, however, chloroform, iodide of ethyl, and the alcoholic solutions of thymol and of menthol.





Dr. Yeo's principal resort to treatment by the respirator has been in cases of phthisis, in which he has desired to keep up a continuous antiseptic inhalation; and the drug which he has found of the most service is creasote. From this treatment, in conjunction with proper hygienic measures and constitutional medication, he has obtained excellent results, some of which he has reported.[1]

Dr. J. Solis Cohen and myself have tested the method during the past two years at the German Hospital, at the Philadelphia Polyclinic, and in private practice. The cases selected for this purpose number more than one hundred and fifty While our results do not justify the endorsement of the plan as in any sense curative of phthisis, they have convinced us that much comfort may be afforded to patients past cure; that distressing symptoms may be quickly relieved, and in some instances entirely removed; and that recovery may be aided in cases affording reasonable basis for favorable prognosis. In other diseases of the respiratory organs, there has seemed to be a hastening of the favorable termination in some instances, and a marked degree of relief in others; even in chronic and incurable affections.

Without detailing histories of cases the following general results may be recorded:

I. *In Phthisis.*—In cases with slight laryngeal involvement, the inhalation of terebene (ten drops, renewed every second or third hour) as continuously as possible during the day, with the addition of chloroform (five drops at bedtime) during the night, has seemed to allay the uncomfortable sensations of dryness and heat in the throat, and to restrain irritative cough. The relief has been particularly marked, and the gratitude of patients correspondingly great in cases in which, prior to the institution of treatment, sleep had been disturbed by violent spells of coughing two or three times during the night. In those cases in which the absence of a hemorrhagic tendency has permitted the use of daily inhalations of compressed air, after the increased coughing and expectoration caused by the loosening of retained and impacted secretions has subsided, there has been almost entire cessation of coughing. At most, in some instances, there has been a "clearing-out" cough on arising in the morning, and in but one or two instances has an unproductive cough remained during the day or night.

In dispensary practice, oil of turpentine (twenty drops) has been prescribed instead of the terebene, with almost equally satisfactory results. In some cases, however, especially those in which there has been organic lesion or functional disturbance of the kidneys, terebene and turpentine have caused distressing symptoms referred to the back of the head and to the ears, and apparently due to cerebral congestion

Many patients, even among those whose disease has already proved fatal, have declared that they could not be induced to part with "the little machine." In one case, which I shall at some future time report in full, the patient, a girl of eighteen years, complained that the dose of chloroform (three minims) ordered at bedtime, "smothered her." On increasing the dose to five minims, the unpleasant sensations disappeared, and she fell almost immediately, upon retiring, into a refreshing sleep, undisturbed by the cough that had formerly harassed her throughout the night. While it is only fair to add that in this case there was a constant and remarkable improvement in every respect under constitutional treatment, yet the relief to cough preceded other favorable changes.

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[1] British Med. Journ., Jan. 12, 1884.

In cases with marked laryngeal disease, the amelioration produced by treatment with the respirator, while decided, has not been so great as in the preceding group of cases. These patients have, as a rule, done better under creasote than under terebene; and where there has been extensive ulceration, eucalyptol seems to have done more good than either of the other drugs. Eucalyptol, however, has been on the whole a very disappointing and unreliable drug, failing utterly in some instances, and as yet, without affording any positive indications as to the conditions in which it is likely to prove of service. Whatever drug has been employed in this group of cases, whether terebene, turpentine, thymol, creasote, or eucalyptol, the best results have been obtained from its admixture with chloroform or with spirit of chloroform; chloroform alone being used at night.

II. *In Bronchitis.*—In subacute and in chronic bronchitis, good results have been obtained from the use of the Yeo respirator, worn for an hour or two at a time, during the day and night, with terebene, spirit of turpentine, or tincture of benzoin, as the medicament. In bronchorrhœa and in fetid bronchitis, creasote and carbolic acid have been advantageously employed, either singly or in connection with one of the other remedies. Eucalyptol has been of value in a few cases. Ethyl iodide has given excellent results in cases of profuse bronchorrhœa Even in a few instances of pulmonary gangrene, the fetor has been controlled by this drug, after failure of other remedies.

In most instances, cough has been restrained and expectoration has been diminished in amount and corrected in character; while the subjective relief afforded has often been most gratifying.

III. *In Pleurisy.*—In one severe case of acute pleurisy in which persistent and painful cough was one of the most distressing symptoms, the continuous inhalation of terebene and chloroform (five minims of each) for an hour at a time, three or four times during the day, afforded marked relief.

IV. *In Chronic Laryngitis and Tracheitis.*—In cases of chronic laryngitis in which burning or tickling sensations in the throat, or annoying cough, have constituted sources of distress, terebene, creasote, camphor, and tincture of benzoin have proved very useful. Eucalyptol has succeeded where the other remedies have not answered a good purpose; but has not been at all reliable. It must be used, if at all, in small quantity (two or three minims on the sponge at a time) or well diluted.

The benefit of inhalation by means of the respirator has been most marked in cases of laryngo-tracheitis characterized by a constant desire to hawk out something that seems to stick in the upper part of the trachea; a purely subjective sensation. In these cases terebene has been chiefly used, but tar has also seemed to be beneficial.

V. *In Nasal Catarrh.*—No extended trial of the method has been made in cases of rhinitis; but a few patients under treatment for other affections, have reported relief to nasal symptoms which had annoyed them for years. In these instances, creasote has been the medicament employed. Acting upon this hint, some half-dozen cases of rhinitis have recently been treated at the Polyclinic with creasote by continuous inhalation. The results have been quite satisfactory. In none of the cases referred to has there been any marked structural change in the nasal passages. In one there was hypersecretion from the glands at the vault of the pharynx.

VI. *In Syphilitic Disease of the Throat, of the Nose, and of the Ear.*—In cases of syphilitic laryngitis, and in a few cases of syphilitic rhinitis, one of the latter being marked by profuse fetid discharges both anteriorly and posteriorly, with involvement of the middle ear, curative results have been obtained by the administration of ethyl iodide by continuous inhalation from the Yeo respirator. In cases of extensive or rapidly spreading ulceration, however, exclusive reliance has not been placed upon this method of treatment.

VII. *In Pertussis.*—Some amelioration has seemed to be produced by the inhalation of tincture of thymol, eucalyptol, tincture of benzoin, creasote, and chloroform in pertussis; but while the relief has been marked in a few instances, the results have not on the whole been very satisfactory.

VIII. *In Hay Fever and Asthma.*—Trial of the method is being made in hay fever and in asthma, but, as yet, no conclusion can be drawn.

IX. It may be mentioned, in addition to the therapeutic uses already detailed, that the Yeo respirator, charged with eucalyptol, has been worn with comfort and satisfaction at the dissecting-table.

Upon the whole, the results thus far obtained from continuous inhalation, in the treatment of the various affections for which it has been employed, justify the warm recommendation of the method to consideration and trial at the hands of the profession.

ON THE TREATMENT OF TAPEWORM.

BY BERNARD PERSH, M.D.,
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DURING a term of service at one of the military posts on the lower Rio Grande, quite a number of patients suffering from tapeworm presented themselves for treatment, and extensive trials were made with various remedies. Turpentine, ether, pomegranate root, male-fern, koosso, salicylic acid, and carbolic acid were employed, but the results obtained were by no means satisfactory, and it was particularly noticed that while a certain remedy would prove effective in one case it would fail in others. The effects of the different anthelmintics were most carefully watched, and the interest taken in the matter was increased by the fact that the surgeon in charge and myself were affected with tapeworm.

Koosso and carbolic acid gave the best results, possibly for the reason that they were more frequently used than any of the other remedies. Koosso was given in six drachm doses, suspended in water, and followed in two hours by an ounce of castor oil; and of the carbolic acid two grains of the crystals, made into a pill with extract of liquorice, as recommended by Dr. J. S. Bill, U. S. Army, were ordered every two hours until ten pills were taken. If, after taking a dose of oil, the carbolic acid treatment proved unsuccessful, it was repeated next day. Carbolic acid was, however, given in much larger doses, for the same complaint, without producing any disturbance of the digestive organs, or symptoms of carbolic acid poisoning, but even with large doses failures to expel the worm were noticed. I remember the case of a physician suffering from tapeworm, who objected to the administration of the acid in the form of pills and who took three grains every hour in an ounce of brandy until he had taken fourteen doses. He described the effects of the acid as rather exhilarating, and when it was hinted that this was possibly the result of taking a pint of cognac with the acid, strongly objected to the insinuation. However, the exhilarating effects did not extend to the parasite, at least the excitement produced was not of a sufficient degree to make the worm relinquish its hold upon the mucous membranes of the doctor's intestine.

Several years later, while conversing with some medical gentlemen upon the subject, one of them recommended chloroform and croton oil as a most effective remedy in the treatment of tapeworm, and I was particularly impressed with its value, since I had noticed that after administering chloroform or ether to patients they would lose numerous segments or pass large pieces of worm. The day after the remedy was suggested to me, I suspended one drop of croton oil and a drachm of chloroform in an ounce of glycerine, took the whole of it on a full stomach and expelled my uninvited guest in less than an hour after taking the medicine. During the past eight years I have given the remedy, or suggested its administration, in more than twenty cases, with most excellent results. The medicine is best given in the morning before breakfast, and no preparatory treatment is required, excepting half an ounce of Rochelle salt on the evening preceding the removal. The preliminary laxative is not necessary to effect a cure, and it was omitted in several cases, but its administration facilitates the examination of the evacuations, prevents breaking up the worm by hard feces, and allows the parasite to pass more quickly through the intestines after becoming detached.

I have not observed any bad effects from the chloroform, and while in some cases slight drowsiness or giddiness prevailed, these symptoms passed off rapidly by placing the patient in the recumbent position, and they disappeared in most cases before the croton oil commenced to operate. The action of the croton oil is rapid, and increased peristaltic action appears shortly after taking the medicine, and a movement of the bowels takes place in less than an hour. Any tendency to diarrhœa or irritation of the intestines is readily controlled by giving bismuth and opium after the worm is expelled. I am not prepared to say whether a cure could be obtained without the croton oil, but I have seen one case in which the parasite was expelled after taking a drachm of chloroform. It appears plausible that a considerable quantity of the vapor of chloroform may escape from the stomach through the pylorus, thus causing distention of the small intestine, and, in consequence, increasing peristaltic action sufficiently to carry the anæsthetized worm into the large intestine before the effects of the anæsthetic pass off. If the worm has once descended from the small intestine, there is no probability of its returning to its old resting-place, and since the contents of the large intestine are not suitable to sustain the life of the parasite, it is soon expelled with the feces.

In all cases the worm was passed alive, which showed that the anæsthetic was not given in sufficient quantity to kill the worm, but that the effects produced were such as to make it relinquish its hold upon the mucous membrane of the small intestine. For this reason, prompt removal of the worm from the small intestine becomes necessary, and it is therefore safest to combine a drastic cathartic with the chloroform. Nothing is more suitable to accomplish this purpose than croton oil, since it dissolves easily in chloroform, does not add to the bulk of the dose, and is not liable to increase the tendency to vomit, which is sometimes noticed after the administration of chloroform.

In conclusion, it may be proper to state that all of the cases in which this cure was employed, had been treated for tapeworm on previous occasions, and the patients agreed that the remedy was readily taken; that its immediate effects were by no means unpleasant; that the treatment did not leave them prostrated; and, above all, that it was successful.

The Frankford Arsenal,
July 29, 1884.

MEDICAL PROGRESS.

Resection of the Ribs for Pleural Disease.—Dr. A. von Puky, in an article on this subject, in which he gives the history of five cases of this operation, all occurring in adults, draws the following conclusions as to the indications:

1. Thoracocision is indicated in suppurative pleuritis, whether of traumatic or pathological origin. 2. In pyopneumothorax complicating phthisis. 3. In operations for echinococcus tumors.

Thoracoplasty is indicated: 1. In chronic empyema with compression of the lungs and thickening of the pleural membrane. 2. For extirpation of neoplasms. —*Centralbl. für die med. Wissensch.*, August 9, 1884.

Aneurism of Innominate Artery—Ligation of Carotid and Subclavian Arteries.—Mr. J. W. Florance reports the case of a man, æt. 33 years, who came under the care of Dr. J. G. Beaney, at the Melbourne Hospital. The sternal end of the clavicle was displaced upwards and forwards, and rose and fell with the pulsation of the tumor. The tumor extended from half an inch to the right of the right sternoclavicular articulation nearly to the opposite left joint, a distance of two inches. Above, it terminated about one inch beyond the end of the displaced clavicle. The pulsation of the tumor was expansile. The cardiac appearances and sounds were normal, save that at the base a rather muffled bruit was heard with the first sound, with accentuation of the second sound. Over the tumor the murmur was distinct. The right radial pulse was much stronger than the left. No difference in the temporal pulses. Pupils equal. Pressure on the tumor caused some dysphagia and a slight cough.

The first part of the distal operation, ligation of the carotid, was done about a month after his admission, the patient making an uninterrupted recovery; as he did from the subsequent ligation of the subclavian, done twenty-four days later. The ligatures were made of kangaroo tendon; and the wound was irrigated with carbolic acid solution. The clinical features in the case are somewhat remarkable, and deserve careful consideration. These are: 1st, the rapid recovery of the patient after undergoing two operations of such magnitude; 2d, the comparatively slight disturbance of the cerebral functions following the application of the ligature to the carotid; 3d, that the arm regained its normal temperature within thirty-six hours after the subclavian had been tied; 4th, the progressive consolidation of the aneurismal tumor; and 5th, the rapid healing of the wounds, the carotid operative wound having united soundly by first intention. The question may be asked, What have been the factors at work in the causation of this arterial lesion? He is a young man, only 33 years of age, and has never suffered from syphilis or alcoholism. He has had frequent acute attacks of rheumatism, and his father suffered much from gout. He is a veterinary surgeon; has often received blows on the chest from restive horses, and has had to use considerable exertion in throwing them for operative purposes; and four years ago he was garroted. There may have been an inflammatory softening of the artery due to rheumatism, which only awaited some mechanical violence, or extreme blood pressure, to dilate the vessel at its weakest point, and so lead to the formation of an aneurism.—*Australian Med. Journal*, July, 1884.

Albuminate of Iron as an Emmenagogue.—Clinical experience, says Dr. Albert Blondel, has shown for several years the necessity of administering albuminate of iron to women with chronic uterine troubles. He has made a special study of its effects in amenorrhœa and dysmenorrhœa, and the results which he has obtained cause him to prefer this preparation almost above any other for treating irregularities at the menstrual period.

We frequently observe in young women, and particularly in young girls, menstrual troubles characterized by a retardation of the flow for two, three, or four months, or even longer. These patients have a sensation of cold in the epigastrium, they complain of digestive troubles, mental hebetude, flushes of the face, insomnia at night, and a frequent desire to sleep during the day, and other well-known symptoms. It is usual in these cases to treat the subjective symptoms symptomatically, and to endeavor to arrest the defibrination of the blood and the cachexia by tonics, iron being very commonly administered, and causing, as we know, a rapid amelioration of the tendency toward congestion of the organs, and retention on the part of the utero-ovarian apparatus. This end is but imperfectly attained, however, if too much iron be given, or if two or three of the preparations be used. The albuminate, however, seems to give far better results than any other preparation of iron, as it is the ultimate form taken by iron before being absorbed by the blood. It may be given with syrup of orange peel, each teaspoonful containing gr. ¾–j.—*L'Union Medicale*, August 2, 1884.

The Etiology of Deaf-mutism, and the Instruction of Deaf-mutes.—Dr. L. W. Salomonsen, of Copenhagen, read a paper on this subject at the late meeting of the International Medical Congress. The number of deaf-mutes, he said, is surprisingly different in different countries, varying from 1 in 2000 to 1 in 600. Among the causes of deaf-mutism there are some which may be called *indirect*, which especially relate to congenital deaf-mutism. Such are consanguineous marriages, heredity, alcoholism and fatuity on the part of the parents, and certain telluric and climatic influences.

There are other and more *direct* causes, of especial importance in acquired deaf-mutism, which is very frequent in comparison with the congenital affection. Among the important direct causes scarlet fever is especially prominent. Contrary to what might be expected, an examination of the organs of hearing and voice are generally normal; and consequently the fundamental cause must be looked for in some abnormality of the encephalon.

A comparison of the two methods of teaching shows that the method of articulation gives the best results. The following conclusions were drawn: 1. The primary cause of the majority of cases of deaf-mutism, especially of congenital cases, is, as yet, not known; 2. It appears that the most frequent cause of acquired deaf-mutism is scarlatina; 3. The separation of the classes of deaf-mutes is practicable and useful; 4. The instruction should be by the method of articulation in the great majority of adult cases; 5. The instruction should be compulsory.

Solution for Intravenous Injection in the Algid Stage of Cholera.—The following solution has been advocated by Hayem as useful for intravenous injection in the algid period of cholera.

℞.—Water, ... f℥xxxj¼.
Sodium chloride,
Sodium hydrate, ... āā℈iv.
Sodium sulphate, ... ℥vjʒj.

Should it be desirable to inject more than one litre of this fluid, Hayem advises that the proportion of sulphate of soda be diminished, so that more than ʒvij℈ij shall not be introduced into the blood at one time. This solution admirably preserves the elements of the blood.—*Gaz. méd. de Paris*, September 13, 1884.

Subcutaneous Ligation of the Brachial Artery.—Dr. Raimondo Cannizzaro reports the case of a man, æt. 22 years, who received a stab-wound in the right forearm, passing between the bones and wounding the ulnar and interosseous arteries. Subcutaneous ligation of the brachial artery was performed under antiseptic precautions, and the wound dressed antiseptically, with the result that healing took place by first intention.—*Lo Sperimentale*, June, 1884.

THE MEDICAL NEWS.

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SATURDAY, OCTOBER 11, 1884.

THE ANTIPYRETIC TREATMENT.

IT has been a good many years since the antipyretic treatment by baths was suggested by LIEBERMEISTER, and yet it cannot be said to have established itself in this country, and it is doubtful whether the cold bath is as much used among us in the treatment of high temperatures to-day as it was six or eight years ago.

Liebermeister has taken advantage of the Copenhagen Congress to reiterate his views on this subject before the Section on Medicine, which, in view of their practical bearing, should interest our readers. He first considered the relation of the antiseptic to the antipyretic treatment, between which there is no opposition. The antipyretic treatment is characterized as expectant-symptomatic, since it has to do with the treatment of a symptom which, with its consequences, is so often the cause of death in acute febrile diseases, and especially typhus and typhoid fevers.

The pith of the antipyretic treatment consists in the removal of heat from the body by means of cooling baths. Although regard should be had, in the selection of cases, to the degree of temperature and its duration, the duration and individuality of the disease, the powers of resistance in the patient and his individual organs, yet, as no harm can accrue from the baths, it is safe to err on the right side, the sins of omission being far more numerous than the sins of commission. It matters not much how the refrigeration is accomplished if it is effectual, and Liebermeister's method is with baths at 68° F. or under, and of about ten minutes' duration. The antipyretic remedies, so called, including quinine, sodium salicylate, kairin, and antipyrin, he regards as adjuvants; and, although useful as such, are often employed primarily because of the little trouble involved in their use, when the cold baths would have been more efficient. Liebermeister considers salicylic acid contraindicated when there is a weak heart.

The baths should be used whenever the temperature in the axilla reaches 102° F., or 103.1 F. in the rectum,—generally between 7 in the evening and 7 in the morning; between 7 and 11 if the temperature reaches 104° F. in the rectum; between 12 and 3 if it reaches 103.1° F.; and between 4 and 7 if it is 102° F. During the day the temperature is usually lower, but the baths may be used if these high temperatures are reached. Experience has shown, too, that fevers with decided remissions are less dangerous to life, and there is less need of the antipyresis.

The antipyretic treatment should not alone be relied upon, but every care should be taken in the selection of diet and other measures tending to place the patient in a condition favorable to recovery. Nor should the antipyretic method be pursued to the exclusion of the specific treatment, such as quinine in malarial fevers, mercury in syphilis, salicylic acid in rheumatism, and calomel in typhoid fever, dysentery, and cholera, although it is admitted that the theoretic estimate placed upon the specific treatment is not always sustained by experience.

Liebermeister claims as much as ever for his treatment, and contends that his results will be sustained by experience with these measures in private and hospital practice. He tells us that there are places in Germany where this treatment is so thoroughly esteemed by the popular mind that the physician who would dare to attempt to treat a severe case of fever without it would be dismissed. On the other hand, we are quite certain that there are places in this country in which the physician would be dismissed who attempted to treat a case by these measures. It is a sad commentary on medicine that such diverse views are held upon a method of treatment upon which the lives of thousands of sick hang.

THE PRESIDENT'S ADDRESS AT THE AMERICAN GYNECOLOGICAL SOCIETY.

ALTHOUGH the Chicago meeting of the American Gynecological Society does not seem to have been a remarkable success, either in the attendance, or in the general character of the papers read, we are glad to say the President's address was not condemned to be "read by title," and that it was worthy of the man, and worthy of the organization, as will be seen by the abstract presented in this issue of THE NEWS.

DR. ALBERT SMITH began with brief reference to the extension of the gynecologist's work, and the improvement made in that work. It is natural for a man heartily believing in, and earnestly pursuing a special department of professional work, to magnify his office; and when the office is of such importance as that of the gynecologist, and when he so ably fills it as Dr. Smith does, we can find no fault with his statements.

He next referred to "the prurient tendency of many articles in our medical journals." Undoubtedly pruriency, whether in seed, bud, flower, or fruit —whether tendency, initial or perfect development —is not to be commended, but to be condemned whether found in medical literature or anywhere else. But directly opposed to pruriency is prudery, and we are not quite sure but there may be as much of the latter to be condemned as of the former. One cannot draw a hard and fast line between what the old rhetoricians called the *dicenda* and the *tacenda*, so much depends, not upon the things discussed, but upon the time and place, the motive, the manner, and the end of discussion. We cannot ignore the fact that certain sexual relations connected with social and individual purity, with human health and happiness, relations which were considered by the wisest of lawgivers and the oldest of historians, Moses, and by the greatest of Christian theologians, Paul, are at times the legitimate subjects of medical discussion. And such discussion can be so conducted that it will no more contribute to lewdness than, according to Dr. Samuel Johnson, did the writings of Prior—the former declaring that if Lord Hales found anything of that kind in those writings, he "must be more combustible than other men."

If we were to reject from investigation all that is obscene, taking the word in its etymological meaning, we should not dare to speak of evacuations from bowel or bladder; undoubtedly such things are not clean, but to label them as morally unclean, is to push prudery to utter absurdity. While then escaping Scylla, let us also avoid Charybdis; rejecting all reference to sexual relations, when such reference excites lewd desires or prurient thought—never making those relations the subject of coarse jests, or filthy jokes—let us at the same time not hesitate to consider them in a proper way and at a proper time, when such consideration can bring good, or lead to the avoidance of evil. Dr. Smith does not say a word too much in favor of the refined delicacy and the chivalric bearing which the gynecologist should manifest toward that sex which is at once the purer, as well as the gentler.

Passing from these preliminary topics Dr Smith enters upon the subject of his address *The Present Aspect of Puerperal Diseases*. While the literature of this subject, even in recent years, is vast, and one is liable to get confused amid the multitude of teachers and the multiplicity of opinions, let us be grateful for the calm discussion of it by one of large experience, patient study, and wise judgment. We will not pledge ourselves to endorse all the views that Dr. Smith presents, for in the very retention of the term puerperal fever, there is some liability, as we think, to the misleading of the professional mind, but we do not hesitate to say that he helps to bring order out of the chaos of accumulated information, and establish some firm principles.

Dr. Smith justly regards the subject as one of very great importance, it being of signal consequence that the young practitioner should have clear ideas of the pathology, and especially of the etiology of the disease. Nevertheless, we must say, until the old practitioners come to better agreement as to these questions, how much clearness of vision will be granted the eyes of the young? The New York discussion, to which Dr. Smith refers, and the many papers which that discussion evoked, proved irreconcilable differences of theories and therapeutic means; even one of the chief participants in the debate changed some of his therapeutic means within a few weeks, between the beginning and the end of the debate. The outcome of all our knowledge at present seems to be that the disease, in its various forms, depends upon a single infectious principle

It is comparatively easy to explain the different morbid manifestations as Siredey does, by supposing that the morbid agents, though having the same origin, and the same virulence, do not find in all women conditions equally favorable for their development, and then they are attenuated and only cause a rudimentary disease—abort, so to say, and the fever is of a benign form. Or else the morbid germs vary in nature, and do not have the same degree of virulence, thus determining diseases whose gravity also presents multiple differences.

Possibly Dr. Smith is wise in withholding immediate faith in specific germs as the cause of puerperal fever, awaiting further study of germs and conclusive proof of their power, and for the present regarding them as the accidents, not the essentials; nevertheless the tendency of those who have given most study to the disease is to believe in its germ origin. That which seems to us a strong argument in favor of the theory mentioned is that our best antiseptics are our most powerful germicides. Nevertheless, the question is still unsettled, and the greatest liberty of opinion must therefore be admitted.

THE TREATMENT OF PROSTATIC OBSTRUCTION.

IN a paper read at the International Medical Congress at Copenhagen, MR. REGINALD HARRISON, of Liverpool, considered the treatment of difficult micturition due to an enlarged prostate, and described a new operation for its relief, which must be regarded as a most valuable addition to the surgery of this intractable affection.

The class of cases to which he referred are those not adequately relieved by the use of the catheter, and include those in which there is difficulty in passing that instrument, those in which hemorrhage almost always attends its use, those in which emptying the bladder is not followed by a sense of relief, and the very common examples of catarrh, in which the bladder is little else than a chronic abscess. The various expedients that have heretofore been resorted to for the relief of such conditions, as puncture above the pubes, by the rectum, and from the perineum, with the retention of a canula for the discharge of the urine, do not deal directly with the cause of the obstruction, and in two of these measures the artificial canals are inconveniently placed, as the opening for the escape of the urine should be dependent.

With the view of overcoming these objections, Mr. Harrison opens the membranous urethra in the middle line, and divides the obstructing median portion of the prostate, partly with a straight probe-pointed knife, and partly by divulsion with the finger or a large sized bougie, until the access to the bladder is felt to be free. A double drainage-tube is then inserted, and retained for from six to twelve weeks, through which the section of the median lobe, or bar-like ridge, is made permanent, the indication for the removal of the tube being the easy introduction of a catheter along the natural route, and the passage of the urine along its side. A bougie is inserted regularly until the external wound has closed, and its occasional use is continued as a precautionary measure.

In the case which Mr. Harrison relates as an illustration of the happy result of his procedure, the patient was out of his bed in ten days, and the drainage apparatus was used for eight weeks. There was no further trouble in micturating or in passing the largest-sized catheter; the bladder regained its natural power of expulsion; there was no residual urine, and he could retain the fluid for four hours. Six months after the operation the patient had a paralytic seizure, from which he has not recovered, but it has not been found necessary to resort to catheterism.

DR. WILLIAM OSLER.

Last Tuesday Dr. William Osler, of Montreal, was unanimously elected to the Chair of Clinical Medicine in the University of Pennsylvania, rendered vacant by the transfer of Dr. Pepper to the Chair of Theory and Practice of Medicine.

Dr. Osler was born in 1849, and was educated at Trinity College School and at Trinity College, Toronto. He received his medical education at McGill College, Montreal, and at the Toronto School of Medicine, and the degree of Doctor of Medicine was conferred on him in 1872. He subsequently pursued his studies for two years and a half at University College, London, and at Berlin, and Vienna. In October, 1874, he was elected to the Chair of the Institutes of Medicine in McGill College. In the following year he was appointed Pathologist to the Montreal General Hospital, and in 1878, Physician and Lecturer on Clinical Medicine in the Summer Session. He was elected a Fellow of the Royal College of Physicians of London, in 1883, and has been appointed to deliver the next Gulstonian Course of Lectures before that body. His contributions to medical literature are numerous and valuable; they cover the broad field of medicine and bear evidence of being the fruits of a cultivated and scholarly mind. At the annual meeting of the Canada Medical Association, held last month, in view of his anticipated removal to Philadelphia, and actuated by a strong desire on the part of its members to testify their high regard for his ability and character, he was elected President for the ensuing year.

From this brief sketch it will be perceived that Dr. Osler comes to Philadelphia in the early maturity of his intellectual powers, with a mind well trained for the duties he is called upon to perform, and in the enjoyment, both in his own home and abroad, of a deservedly high personal and professional reputation, which has been acquired at an unusually early period in his career.

The University of Pennsylvania and the medical profession of the States are to be congratulated on this election, and while Dr. Osler leaves Montreal amid the united and expressed regrets of the faculty and students of McGill College, of the medical profession and of the medical press of Canada, a most cordial welcome awaits him at Philadelphia, in his new and extended field of labor.

A CHANGED MAXIM.

Doctors occasionally quote the following words: *Anceps remedium melior est quam nullum,* that is, a doubtful remedy is better than none. Many would dispute the wisdom of this supposed maxim. Certainly Sydenham gave it no countenance, for he tells us, "I have been long of the opinion that I act the part of an honest man and a good physician as often as I refrain entirely from medicines, when, upon visiting the patient, I find him no worse to-day than he was yesterday; whereas, if I attempt to cure the patient by a method of which I am uncertain, he will be endangered both by the experiment I am going to make on him and by the disease itself; nor will he so easily escape two dangers as one."

However, we do not intend to discuss the truth of the supposed maxim, but to call attention to the fact that it is not only an abridgment, but also a change of a once famous maxim of Celsus. This illustrious writer used these words: *In evidenti mortis periculo satius est anceps remedium experiri, quam nullum.* He, therefore, did not teach that in all cases a doubtful remedy was better than none, but only that it would be better in manifest danger of death to try such a remedy. When the maxim is correctly quoted, few or none would doubt its truthfulness.

SPECIAL ARTICLE.

INTERNATIONAL ELECTRICAL EXHIBITION, PHILADELPHIA.

[CONCLUDING NOTICE.]

THE White Dental Manufacturing Company, of this city, offer some exhibits which are of interest both to dentists and physicians. The dental instruments are the plugger and the burring engine. The former can make as many as 3500 strokes per minute. It is constructed on the simple principle of an electro-magnet and interrupter, the blow being delivered on one end of a steel rod, the other end of which constitutes the plugging instrument, which is inserted into the cavity of the tooth. The force of the stroke can be graduated by varying the distance of the interrupter from the steel rod. Very many of these instruments are in use, and, in skilful hands, better work is said to be obtained than by the manual method.

The burring engine is a small electro-motor, fastened in the handle, which revolves very rapidly and communicates its rotary motion to the burring instrument. These machines are run by a four-cell Bunsen battery. They are interesting as showing what has already been achieved in the application of electricity to small surgical instruments, where rapid action is desired.

The same Company make some good exhibits of illuminators, in the form of small incandescent lamps, requiring from three to five volts-power to run them. It is quite remarkable with what brilliancy one of these small lamps will light up the structure of a tooth. The sound tooth is quite translucent before one of them, while any small spot of caries can be detected as an opaque mass. We were also shown handles adapted to hold these lamps in laryngological and gynecological work. An objection to them for prolonged use seems to be that the globes of glass are apt to become overheated. It is said that the light from these small electric lamps is too brilliant to be used for illuminating the chambers of the eye. Such is the objection, at least, which we understand one well-known ophthalmologist has urged against them. If a patient hold one of these lamps in the closed mouth, in a dark room, the light is transmitted very clearly into the nares, partially through the antrum of Highmore. We are not informed whether this method has been used in diagnosis, and can only conjecture as to its probable value. Mr. Starr, who is with the White Company, has some very small storage-cells, quite portable, of several volts-power, which he says will run almost one hour.

A new battery-cell is displayed by Partz, which promises to be of much value to physicians, if all its claims are substantiated. It is now being tested by a committee of the examiners. It has zinc and carbon elements in a solution of ammonium bichromate and zinc chloride. It is claimed to have high electro-motive force, to be very constant, and to have no local action. It is certainly very portable, as each cell is tightly corked, and is so made that the exhausted fluid can be readily removed and fresh fluid substituted. As the battery is at present constructed, however, the keyboard has neither pole-changer nor interrupter, and is otherwise deficient.

The Kidder Company, of New York, have a large display of their batteries, which present some features which are apparently special. Their tip-cup is probably familiar to most physicians. It is so constructed that upon being thrown over the fluid runs into a reservoir away from the elements. They have applied the same principle to a series of small cells in a portable galvanic battery. Many of their faradic instruments have no slow interrupter, which we consider a defect. They display many good electrodes adapted to different regions of the human anatomy.

This Company's claim of supplying *ten* different currents from one faradic battery brings up a subject which we think may be misleading to many. Electrical science recognizes a primary and secondary induced current, and the therapeutic distinction between even these two is not usually regarded as important. A variety in so-called tension may no doubt be attained by varying the length and thickness of the wire in different coils. In the Kidder machine there are four coils which, as well as we can unravel the diagram, are united at the ends, making them practically one coil. The primary coil is also united to the secondary. By a series of five binding-posts it is said that the different currents from these coils are put in various combinations. The exact fact seems to us to be this: when the primary and first secondary are being used in so-called combination we are really having a longer primary coil, and, of course, obtaining a simple primary induced current; and when two or more secondary coils are being used we are having only a secondary induced current through a longer wire. It is just equivalent, in other words, to tapping a coil at different points, except that we are using wires of different thickness. That there may be some distinctions of therapeutic value in such a plan we would not absolutely deny, but we think they are not sufficient to warrant a claim of ten distinct currents. The general make-up of the instruments of the Kidder Company is attractive and substantial.

Among the exhibits of Flemming, not noted in our preceding notice, is the "non-polarizable" electrode, after DuBois-Raymond. This consists of an amalgamated zinc rod in a glass tube containing a solution of zinc sulphate. This should be of great use, especially where accurate measurements are desired, and where the polarization of the electrode would introduce a factor of error. The same manufacturer has also a dental helix for the relief of pain during the extraction of teeth; and he displays a pedal commutator and rheotome. This latter mechanism is in the form of a pedal, by depressing and elevating which, with the foot, the polarity can be changed and the current broken at will.

There are also some combination batteries by French—an ordinary induction apparatus with coils of different metals which can be thrown into circuit at will. We have no sufficient guarantee, however, that coils of different metals give appreciable differences in therapeutic results.

In this series of notices of the International Electrical Exhibition we have confined our descriptions to apparatus of special interest to the medical profession, not attempting to present any description of the great array of apparatus in which electricity is not only the moving, but the lighting and the speaking spirit.

SOCIETY PROCEEDINGS.

AMERICAN GYNECOLOGICAL SOCIETY.

Ninth Annual Meeting, held at Chicago, September 30, and October 1 and 2, 1884.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, SEPTEMBER 30TH—FIRST DAY.

THE meeting was called to order at 10 o'clock A. M., in the Club-room of the Palmer House, by THE PRESIDENT, ALBERT H. SMITH, M.D., of Philadelphia.

After roll-call, to which twenty-four of the fifty-four Fellows responded, the President introduced DR. W. H. BYFORD, of Chicago, who delivered the following

ADDRESS OF WELCOME:

Mr. President and Fellows of the American Gynecological Society: In accordance with the requests of the Committee of Arrangements, I greet you as guests of the Chicago Gynecological Society and the general profession of this city. Many of the distinguished members of your Society visit Chicago for the first time; others have honored us with their presence many times in the past. The former, however, are not strangers to us, because their good works in the profession have sent their fame before them. The latter are familliar to us in person as well as renown. Your meeting here has been anticipated as an occasion of great pleasure as well as profit, and we desire to welcome you in such a manner as may make you feel entirely at home. We assure you that anything we can do to make your stay enjoyable, will also give us pleasure, and I doubt not that every citizen of Chicago whom you may meet will manifest the same desire.

Since the organization of this Society, some of its most illustrious members have gone to reap the rewards of their benevolent, faithful, and excellent labors. In the short time which has elapsed since we last met, our leader has fallen. He whose brilliant achievements crowned him with a halo of glory such as seldom adorns the brow of mortal man, has been called to his immortal heritage. The name of J. Marion Sims will ever remain embalmed in the history of the profession he loved and served so well. His example has to many of us been, as it will be to those who come after us, a stimulus to great efforts in behalf of suffering womankind. In the light of faith he is not lost to us, but stands on the beautiful shore beckoning us to immortal deeds. We cannot again feel the warm grasp of his hand, but we may follow in his footsteps.

In the presence of so large a number of the Fellows of the Society at this meeting, we see the promise of much good scientific work and delightful social enjoyment. Again allow me to welcome you individually to the hospitalities of Chicago. To each of you we tender the freedom of the city.

DR. JOHN C. REEVE, of Dayton, Ohio, then read a paper entitled

MOOT POINTS IN REGARD TO INVERSION OF THE UTERUS.

The points or queries of the paper were: 1. Does inversion of the uterus ever occur independently of pregnancy, or a polypus, or even in the virgin organ? 2. Does inversion ever begin at the cervix and proceed from below upwards, instead of by indentation of the fundus? 3. May not puerperal inversion occur at some considerable period after delivery? 4. May not inversion occur without any marked symptoms whatever to indicate the accident?

The points or queries were supported by arguments and by reports of cases collected from medical literature. The author of the paper claimed that the last two were certainly proved, and were of great practical importance. In conclusion, the author spoke of the extreme difficulty in the differential diagnosis of inverted uterus and sessile polypus.

DR. SCOTT, of San Francisco, had seen two cases of inversion of the uterus. The first case of inversion was of little interest, as the organ was immediately returned to its original position. The second case was of interest, and occurred last year. A lady of Sacramento was attended in her last confinement by a homœopath. The labor was normal; the placenta was not retained, but the cord was dragged upon, with consequent profuse hemorrhage; the hemorrhage ceased, but recurred several times during next three weeks, when the attending physician made the diagnosis of inversion of the uterus. After ineffectual efforts at reduction, he gave up the case, telling the patient it would come around all right. A regular physician saw the woman, recognized the condition, but could not reduce the tumor. For a period of seven months following the accident—during which time the patient suckled her babe—the uterus remained completely inverted without hemorrhage. The woman complained of backache, bearing-down sensations, and profuse leucorrhœa. At the end of the seventh month, the babe was weaned, when profuse hemorrhage occurred. Dr. Scott assumed charge of the case, and in twenty minutes' time effected reduction. The uterus was not large and very soft. In the act of reduction, Dr. Scott felt the cervical circular fibres tear, so that he could insert his half hand into the uterine cavity. Hot water injections were prescribed, and the patient felt quite comfortable until her next menstrual period occurred, when hemorrhage again called him to see her. The hemorrhage persisted for ten days, in spite of all efforts to check the flow. At the next menstrual period, hemorrhage again occurred. Two silver sutures were inserted to correct the laceration of the circular fibres. This little operation was followed by a severe attack of cellulitis, but no hemorrhage occurred subsequently, and the patient recovered.

DR. W. H. BYFORD, of Chicago, had seen nine cases of uterine inversion, of which two were acute. One case, occurring in his own practice in the spring of 1870, and which he had published, was of especial interest as corroborating Dr. Reeve's third proposition. He had attended a Jewess, during her second confinement, and had convinced himself that everything in connection with the parturition had been of a normal character. Vaginal examination, immediately after labor, however, had not been made. He left Chicago for California, and was absent for a considerable period of time. On his return to the city, he was informed that two weeks before a German physician had been called to see his patient on account of profuse uterine hemorrhage, had made the diagnosis of inversion of the uterus, and had effected its reduction. He was of the opinion that the inversion had occurred at a period subsequent to his last visit, and that the hemorrhage was caused by a sort of revulsion, consequent upon the weaning of the babe. He remembered distinctly the case of Fisher *vs.* Stone, occurring in Chicago, twenty years ago, to which Dr. Reeve made allusion in support of his third proposition. Dr. Fisher had attended Mrs. Stone in her confinement, and had discontinued his visits, when it was discovered that her uterus was inverted. Her husband, an extremely irascible man, paid the physician's bill, but applied to him such damaging epithets that the doctor instituted suit. The physician lost the suit, and was ruined by the costs of the prosecution. There was no doubt in the minds of impartial medical men that the inversion occurred after the discontinuance of Dr. Fisher's visits, and that he was nowise responsible for the condition.

Dr. Browne, of Baltimore, had seen a case of inversion of the uterus, occurring in the practice of a thoroughly competent physician, to which attention had been directed by the occurrence of hemorrhage on the ninth day. The cervix was lacerated, and it was highly probable that inversion had commenced in the manner indicated by Dr. Reeve's first proposition.

Dr. Dunlap, of Springfield, O., had seen two cases which threw some light upon the mode of occurrence of the accident. The first case was of one year's duration when it came under Dr. Dunlap's observation. The patient was attended in a normal confinement by a competent physician. Subsequently, recurrent hemorrhages were noted, and digital examination—some months after labor—revealed a tumor dilating the os. The tumor increased in size until it appeared through the os, and careful examination revealed complete inversion of the uterus. This case shows that inversion may commence by dimpling of the fundus. The second case was of less interest but confirmed the first observation.

Dr. Sawyer, of Chicago, referred to two points in the etiology of uterine inversion, deduced from the observation of one fatal case occurring in his own practice. A woman with a large-sized abdomen, suggestive of multiple pregnancy, but which proved to be dropsy of the amnion, gave birth to a child, after nearly inundating the room with amniotic liquor. The placenta was expelled, and the uterus, though somewhat flabby, preserved its symmetry, extending up to the umbilicus. Substituting for his own hand, placed upon the fundus, that of the husband, Dr. Sawyer turned to look after the babe, when a sudden gush of blood called his attention to the woman. One fluid-drachm of the fluid extract of ergot was immediately exhibited by the mouth, and the doctor's hand sought the fundus through the abdominal walls. During the space of time—scarcely one minute—during which his attention had been directed to the babe, the fundus had dimpled, descended, and appeared through the os, in which position it was held by the tonic contractions of the uterus, doubtless induced by the ergot. All efforts at reduction were of no avail, and the patient collapsed and died three hours later, just as Dr. W. H. Byford, summoned in consultation, entered the room. The autopsy disclosed the area of placental attachment around the right horn of the uterus, to be four times the thickness of the uterine wall in other regions. The fundus had dimpled in all probability as the result of the operation of the force of gravity.

Dr. H. P. C. Wilson, of Baltimore, fully agreed with all the gentlemen who had spoken as regarded Dr. Reeve's third proposition. One case of uterine inversion, discovered six months after its occurrence, was reduced by the doctor. Any influence interfering with involution acts as a predisposing cause.

Dr. Howard, of Baltimore, said cases of uterine inversion were excessively rare—according to Dr. Reeve's statement, occurring but once in 140,000 to 150,000 cases of labor. He had seen four cases. The first case occurred in the practice of a midwife, and was due to pulling on the cord. Dr. Howard saw the case three days later, when the pulse of the woman was at 150, and her temperature was 103°. Reduction was effected, and recovery ensued. His second case, a mulatto woman, almost in collapse, he saw in consultation with Prof. Christopher Johnston. The inversion was due to a fibroid tumor with two pedicles. The fibroid was removed, but the patient died. In the third case, the woman was bleeding, supposably from prolapsus. The fourth case was due to a large polypus. The polypus was removed and the organ returned to the pelvic cavity. The woman, although sixty years old, made an excellent recovery. He had seen Dr. Emmet deliver a fibroid by forceps and restore the inverted uterus. In 1876, he was at the International Medical Congress, at Philadelphia, and heard Dr. Washington L. Atlee report a case, in which he had amputated an inverted uterus, mistaking it for a polypus.

Dr. Reeve closed the discussion, adding nothing to the facts already developed.

Dr. Henry P. C. Wilson, of Baltimore, then read a paper entitled

FOREIGN BODIES IN THE ABDOMEN AFTER LAPAROTOMY.

He spoke of the importance of the subject, claiming that foreign bodies in the abdomen after laparotomy were of more frequent occurrence, and produced more mischief, than was generally believed. Such accidents were not reported for the reasons, (1) they reflected upon the skill of the operator; and (2) it was not always possible to obtain a *post-mortem* examination. After a laborious search he had been able to collect but 21 cases. Of these 21 cases only 6 had been published. More than two-thirds of these cases never came to light. Six of these cases occurred in America, 15 in Europe. One case, his own, had been published in America; 5 had been published in Europe. Of these 6 published cases, the foreign bodies in 4 were sponges, forceps in the remaining 2. Four patients recovered, two died. The five published European cases occurred in the practices of Lawson Tait, Sir Spencer Wells, Carl Braun, and Gustav Braun. In Lawson Tait's case an excited bystander had torn one of the twelve sponges, habitually employed, into two pieces. The torn sponge was found in the abdominal cavity four days later. In the first case, reported by Sir Spencer Wells, the sponges were counted by a nurse, and sixteen were asserted to be present. Next morning two sutures were removed, and the sixteenth sponge was found in the abdominal cavity. In the second case, reported by Sir Spencer Wells, the foreign body was a pair of forceps, which were found next day wrapped up in the omentum. Carl Braun reports a case in which the foreign body was a sponge, while his brother, Gustav Braun, reports the presence of a pair of bull-dog forceps.

Dr. Wilson's case was very briefly as follows: The patient, twenty-nine years old, married seven years, three children, youngest twenty months. In the fifth month of pregnancy came to St. Vincent's Hospital, February 16, 1883, to be operated upon for ovarian tumor. There was notable absence of the *facies ovariana*. February 20, 1883, laparotomy was performed, and a dermoid cyst of the right ovary, together with the ovary which had undergone fatty metamorphosis, was removed. The tumor weighed twenty pounds. The patient complained of considerable abdominal pain, and miscarried on the eighteenth day after the operation. Thirty-one days after the operation an abscess—thought at the time to be the cause of the miscarriage—opened through the lower angle of the abdominal wound. On the 16th April, 1883, the patient left the hospital, and came under the observation of Dr. George H. Hocking, an able and accomplished physician, living in Western Maryland. When first seen by Dr. Hocking, the patient was thin, anæmic, with a circumscribed abdominal tumor, very painful to the touch. On 14th May, a quantity of fetid pus was discharged through the abdominal incision; bits of sponge were now discharged, from time to time, through the orifice, until, on the 7th of August, the discharge ceased, and the patient began to improve rapidly. By December she had fully recovered and was working about her house. Dr. Wilson, in conclusion, formulated his rules for the prevention of such accidents, as follows:

1. Count and record all sponges and instruments.
2. Use as few instruments and sponges as possible.
3. Let the operator sponge himself.
4. Let the assistant's functions be confined to handing instruments and sponges.
5. Let the sponge be perfect in texture and strong; never allow the division of a sponge, and use as few small sponges as possible.
6. Let compression and torsion forceps be large.
7. Employ only two assistants in addition to the etherizer.
8. Let the operator himself verify the record before closing the abdominal incision.

Dr. T. Gaillard Thomas, of New York, complimented the author upon his bravery in the exposure of an error in his own operative *technique*. He had performed laparotomy between 300 and 400 times and had had one similar experience. Two or three years ago, in the Woman's Hospital, he had a case of cancer of the spleen, complicated by Bright's disease. Yielding finally to the clamors of the patient for an exploratory incision, Dr. Thomas, assisted by Dr. James B. Hunter, of the Women's Hospital, made an abdominal incision, explored the abdominal cavity, found the tumor could not be extirpated, and reunited the wound. Ether was used as an anæsthetic. It may be remarked parenthetically, that Dr. Thomas has given ether, and substituted chloroform in all cases in which there is any renal disease. Ether, as has been well pointed out by Dr. Emmet, has a peculiarly irritant action upon renal structures, in a pathological state. In chronic Bright's disease, ether frequently induces uræmia by suppression of the urinary secretion. But the ordinary cup-sponge was employed. The patient became comatose and died.

The autopsy revealed a small piece of sponge within the abdominal cavity. It was difficult to account for its presence, as Dr. Hunter was an exceedingly careful and able assistant and but one sponge was employed. It was probably due to the friability of the sponge.

Dr. Thomas always counted and recorded all sponges and instruments employed; he could not sponge himself as both hands were required to differentiate between tissues and organs. He employed as assistants, one etherizer, one assistant to sponge, one to hand instruments, and one nurse. He uses as few instruments and sponges as possible. He attaches now to each of his sponges a tape, six inches in length, usually of a bright color. These tapes hang outside of the abdominal wound. He leaves as few instruments, as possible, upon bleeding vessels; removing them as rapidly as possible, and securing the bleeding point by a torsion or a ligature. He has a dread of Péan's and similar artery forceps remaining for any length of time on bleeding vessels within the abdominal cavity.

Dr. Jackson, of Chicago, had seen three cases in which foreign bodies had been left within the abdominal cavity after laparotomy; forceps in one, sponges in two cases. He agreed in a general way with Dr. Wilson's rules.

Dr. Reeve, of Dayton, O., thought that very good evidence of the aseptic character of Dr. Wilson's sponges had been adduced.

Dr. Dunlap, of Springfield, O., had never met with the accident—at least he had no knowledge of such an event. He used very few instruments, and always picked them up himself. He also uses the sponges himself. He is the only man who puts his hand within the abdominal cavity. Large blanket sponges are used to support the intestines; the patient is placed in a semi-recumbent position, so that the fluids can drain into the cul-de-sac of Douglas. He makes a free abdominal incision, as he wants sufficient light to be enabled to leave the abdominal cavity in a perfectly dry state. His abdominal incisions, no matter what their length may be, always unite within three days by first intention. This is as certain as the purgative action of castor oil. He condemned strongly the use of sponges on sticks or holders.

Dr. Howard, of Baltimore, said that at the Samaritan Hospital, two nurses always count the sponges before and after the operation, and that their number is fixed constantly at fifteen. An eminent English surgeon related a case to him, in which the surgeon became convinced a sponge was in the abdomen; the incision was reopened and the sponge found and removed; the patient recovered. Another surgeon of equal eminence thought he had left a sponge in the abdominal cavity; he reopened the incision and found nothing; the patient died. Dr. Howard was of the opinion that chloroform had an irritant effect on the kidneys, as well as ether, though to a less degree. He was once about to operate in a case of vesico-vaginal fistula, anæsthetized by means of Junker's apparatus (the method employed at the Samaritan Hospital), when the heart ceased to beat. Less than half a fluid-drachm of chloroform was used. The autopsy revealed death from cardiac paralysis and Bright's disease.

DR. ENGELMANN, of St. Louis, had once performed laparotomy in the presence of a distinguished Eastern gynecologist and certain members of the local profession. The Eastern gynecologist became excited and gradually usurped the place of Dr. Engelmann's assistant. Sponges were crowded into the abdominal cavity without due care. Dr. Engelmann was assured that no sponges were in the abdominal cavity, and the abdominal incision was closed. The patient died, and the autopsy disclosed the peritoneum slightly injected; the sponge was perfectly fresh and clean.

DR. MUNDÉ, of New York, suggested: 1. Never use friable sponges, or such as have deteriorated by use, or the employment of disinfectants. 2. Never cut sponges. 3. Always use sponge-holders.

DR. BAKER, of Boston, said he would like to hear of the effect of other foreign bodies, such as the rubber, silk, and catgut ligatures in the abdominal cavity.

DR. WILSON closed the discussion by saying he thought the suggestion of Dr. Thomas, with reference to the sponges, an excellent one, and he would adopt it. He agreed with Dr. Dunlap so far as free incision was concerned. Dr. Mundé's point was excellent. Seven cases of foreign bodies left in the abdominal cavity after laparotomy—six given him by the Fellows, and one he had heard of since his arrival in Chicago—swelled the list to twenty-eight cases.

DR. HOWARD moved that the papers of absentees should be read by title, unless there was time at the close of the meeting to read them *in extenso*. Adopted.

AFTERNOON SESSION.

DR. C. D. PALMER, of Cincinnati, read a paper entitled

ABDOMINAL SECTION: ITS VALUE AND RANGE OF APPLICATION.

After an elaborate discussion of the methods of differential diagnosis in cases of abdominal tumors, the author spoke of tapping. While he was unwilling to give up tapping entirely, he was unwilling to employ the method as universally as its advocates demanded. He wished to strike the golden mean. Simpson said tapping caused the death of one woman in six. Peaslee claimed that in polycysts, it was fatal in fifty per cent. of all cases. Sir Spencer Wells asserted that it increased the mortality of laparotomy two per cent. Still, he thought the position of Schilling, Storer, and Lawson Tait too radical. In conclusion, tapping was (1) frequently unnecessary; (2) it was dangerous except in cases of simple cyst; (3) the physical, chemical, and microscopical evidence that could be derived from tapping, was only of a probable character.

Exploratory incision was the only means of positive information. After alluding to the statistics of this operation as given by F. Bird, W. L. Atlee, Kœberlé, Sir Spencer Wells, C. C. Lee, and Lawson Tait, he said he had made the exploratory incision in five cases of malignant disease; four cases terminated fatally in from three to thirty days; one case survived sixteen months. In cases indicating the operation, the risk was relatively slight. Its statistics were much better than those of the incomplete operation.

Preparations should always be made for the complete operation before the exploratory incision is made.

Dr. Palmer, in conclusion, stated the forms of disease in which the principles evolved in the paper would indicate the exploratory incision as follows:

1. Certain ovarian tumors; seldom necessary in uncomplicated cases.
2. Certain interstitial and extrauterine fibroids, where oöphorectomy or hysterectomy was in view.
3. Certain cases of acute and chronic peritonitis. Whenever there was danger of septicæmia, there might be considerations which would justify abdominal section and drainage of the peritoneal cavity, or circumscribed purulent collections.
4. Intestinal obstructions.
5. Some cases of chronic pelvic abscess.
6. Extrauterine pregnancy, after the fourth month.

DR. ENGELMANN was of the opinion that the exploratory incision was a method of diagnosis with which the American surgeon was comparatively unfamiliar. This ought not to be the case. It was decidedly less dangerous than tapping. He had made the exploratory incision in three cases of uterine cancer.

DR. DUNLAP had no experience with the exploratory incision, and never practised it. When he could not make a positive diagnosis by other means, his patient was so far gone that she could not be operated upon at all. The temptation, after the abdominal incision, to carry the operation through, is too great for the average surgeon to resist. Hence, it is a dangerous procedure.

DR. MUNDÉ, while admitting the force of Dr. Dunlap's last remark, was of the belief that the exploratory incision was not made frequently enough in America. The mortality from tapping was twenty-five per cent.; that of the exploratory incision was very much less. He had made the exploratory incision once in a case of uterine myoma, complicated by ventral hernia; tapping would have proved fatal. In chronic pelvic abscess, the exploratory incision was especially indicated.

DR. WILSON thought every laparotomy was of the nature of an exploratory incision. No man can know definitely the nature of an abdominal tumor prior to the incision. In a case of amniotic dropsy, causing extreme dyspnœa, he was afraid to tap, and made the exploratory incision. The diagnosis lay between dropsy of the amnion and pregnancy, complicated by cystic degeneration of the ovary. Premature labor was at once induced, and six gallons of liquor amnii withdrawn. Tapping would undoubtedly have involved penetration of the uterus, and probably a fatal result. As the case terminated, the patient made an excellent recovery. He was an advocate of the exploratory incision, and opposed to tapping.

DR. MAURY, of Memphis, saw two cases, one of multilocular cyst of the ovary, the other of uterine myoma, in which the exploratory incision was made, and both patients recovered from the operation.

DR. JACKSON asked for the views of the Fellows, as regards the treatment of chronic pelvic abscess by abdominal section.

DR. DUNLAP, in reply, said that a case in point had recently come under his observation. A physician, supposed to be suffering from malignant disease, impacted colon or rectum, while riding on the cars, became so sick that he consulted Dr. Dunlap. The doctor made the diagnosis of psoas abscess and proceeded to operate. An incision, extending from the left to the right of the median line, was made, and one-half gallon or more of pus was removed. The abscess had, so to speak, "kinked" the colon.

DR. SCOTT narrated the history of two cases, the one, of chronic abscess in the left broad ligament, the other, of an enormous pyosalpinx of the right tube, cured by abdominal section and subsequent drainage.

DR. PALMER closed the discussion, and said that abdominal section was especially fatal in cases of malignant disease of the uterus and adnexa. In confirmation of this statement, he quoted his own five exploratory incions, with four deaths in from three to thirty days, with one recovery.

DR. ENGELMANN differed from Dr. Palmer in regard to the mortality of abdominal section in malignant disease. In all the cases in which he had performed the exploratory incision no perceptible difference, as regards primary union or effect of the operation, could be attributed to the indication for the operation. The wound healed and the patient recovered as well in cases of malignant disease as in the most benign myoma.

THE SECRETARY, DR. FRANK P. FOSTER, of New York, then read, by title, the following papers: *The Hygiene of Pregnancy*, by Dr. Samuel C. Busey, of Washington, and *Rapid Dilatation of the Cervical Canal*, by Dr. William Goodell, of Philadelphia.

DR. PAUL F. MUNDÉ, of New York, then read a paper entitled

CERVICAL FIBROIDS AS A CAUSE OF DYSTOCIA, AND THEIR REMOVAL BY VAGINAL ENUCLEATION.

The favorite site of fibroids was the *corpus uteri*; of 205 cases collected by Lee and Corti 25 were cervical. Cervical fibroids are situated in the anterior or posterior lip, and are usually small. They may, however, attain alarming proportions. As a factor in dystocia they are of importance. They may constitute indications for version, craniotomy, or the Cæsarean section. In some cases they occasion the loss of so much blood that puerperal infection and inflammations may ensue. Dr. Mundé confined himself to the discussion of *sessile fibroids*. In cases of fibroids of extensive size occurring in the cervix, three plans of treatment could be considered, viz.:

1. Mutilation of fœtus.
2. Removal of the fibroid.
3. Cæsarean section.

Cæsarean section, however, was a *dernier ressort*. Carl Somer, assistant in Schröder's clinic, in Berlin, has recently published the results of 112 enucleations of cervical fibroids: only 18 patients, or 16 per cent., died. Of 30 cases of Cæsarean section, from the same indication, 24 mothers and 16 children died.

Dr. Mundé then proceeded to give the history and exhibit the tumor of the following case: F. F., thirty-eight years old, married; last child one year ago; began to bleed at an early period in pregnancy. A physician who saw the case made the diagnosis, "*elephantiasis ossis uteri*." The patient became emaciated, weak, and could not sit up. Finally she was brought to Dr. Mundé. Vaginal examination revealed the presence of a large interstitial fibroid occupying the anterior lip of the cervix, and rendering access to the cervical canal and posterior lip extremely difficult; ballottement was elicited, and the positive signs of pregnancy were observed. Two plans of treatment were considered:

1. To control hemorrhage until term, then attempt enucleation, Porro's operation, or Breisky's subperitoneal enucleation.
2. Immediately proceed to enucleate. It was finally decided to allow the woman to recuperate, for the space of one week, and then attempt enucleation.

On May 16, 1883, the day appointed for the operation, the woman fell into labor, the bag of waters ruptured, the cord and one hand prolapsed. At three o'clock P.M., the tumor was enucleated by traction with volsellum forceps, digging out with the fingers, and sawing with Thomas's serrated spoon. The operation lasted about three-quarters of an hour, and was comparatively bloodless. The fœtus and placenta were delivered, and the cavity in the anterior lip washed out with bichloride solution, and packed with iodoform gauze. On the second day the temperature rose to 102° F.; third day, 103° F. The gauze was removed, and a drainage-tube was inserted; the temperature became normal, and the cavity of the fibroid filled up rapidly. The diameters of the tumor, as regards length, breadth, and thickness, were respectively twenty and one-half, eight, and six inches. The tumor weighed three pounds.

Playfair, in 1877, made the assertion that only small fibroids occurred in the cervix; Braxton Hicks promptly challenged this assertion.

Comparing the statistics of enucleation and of Cæsarean section, the result is vastly in favor of enucleation. Carl Somer has collected eight cases of enucleation, resulting in the survival of eight mothers and five children; thirty cases of Cæsarean section—Porro's operation—have resulted in the deaths of twenty-four mothers and sixteen children.

The case just narrated bears a great degree of resemblance to the case of Schröder. Schröder waited until the woman fell into labor, in order to profit by the increased vascularization of the parts. Dr. Mundé did not mean to defer the operation so long. The premature labor was purely accidental.

In the evening,

A BANQUET

was tendered the Fellows by the members of the Chicago Gynecological Society. Dr. A. Reeves Jackson, President of the Chicago Gynecological Society, acted as toast-master. The prominent members of the local profession were present. The banquet was a happy occasion, owing to the apt selection of toasts and speakers. Letters regreting their absence were read from Mr. Lawson Tait, Dr. Playfair, Sir Spencer Wells, Mr. Braxton Hicks, Dr. J. C. Dalton, Mr. J. Matthews Duncan, Mr. Thomas Keith, Dr. Emmet, Dr. W. T. Lusk, and Dr. John L. Atlee.

WEDNESDAY, OCTOBER 1ST—SECOND DAY.

MORNING SESSION.

THE PRESIDENT, ALBERT H. SMITH, M.D., of Philadelphia delivered his Address, which was entitled

THE PRESENT ASPECT OF THE PUERPERAL DISEASES.

Although a single year, he said, does not produce a great amount of work in any particular field, the accumulated work of several years will gradually accomplish much that is valuable. He called attention to the fact that the field of obstetric work had greatly increased during the past few years. It is a well-recognized fact, he said, that there is no principle in general surgery which is not involved in the work of the gynecologist, and no work, except some of the more delicate operations upon the organs of sense, which his work would not qualify him for. Yet the everyday operations which come into his hands are those of which the general surgeon has but little knowledge, and in which he has shown the most meagre expertness and success. There were many kinds of surgical work several years ago which were the wonder or the horror of the profession in the hands of the general surgeon, but which now belong to the commonplace department of a woman's clinic. Plastic operations are now the daily work of gynecologists, and the wonder is, not that the operation for the reconstruction of a torn cervix, or the closure of a fistulous opening, the restoration of a pelvic floor, or the removal of redundant tissue, should succeed, but that with the improved methods of handling, and the substitution of neat instruments for the old bungling armamentarium of the general surgeon, that such work should ever fail. In the matter of abdominal surgery, gynecologists have gradually come to have charge of almost all of it. Beginning with operations on the pelvis, they have extended their field upwards until it now embraces the treatment by operation of all abdominal diseases of both sexes; including the operations of nephrectomy and nephrotomy, those for carcinomatous disease, for intestinal obstruction and invaginations, for the removal of hydatid tumors of the liver, of calculous affections of the gall-bladder, and various other operations. He called special attention to the moral position which obstetricians and gynecologists should take in the community. We should recognize, he said, in a practical manner the high ground upon which they should stand in relation to the world around them; the special work of each one brings him into contact with woman almost exclusively in her sexual capacity and relations, around which society of every degree of refinement and civilization, in all ages, has thrown its protection; and he is admitted to such sacred ground only because of an unqualified confidence in his manliness, his honor, and his earnest sympathy with those who are compelled to place themselves under his care. If he appreciates the position, he will feel that there is nothing in his function which can encourage or even tolerate a disregard of the finer feelings of delicacy in woman, nor a contempt for that natural modesty which is among her highest ornaments; and still further he will feel that at all times, in her absence as in her presence, should her honor and purity be saved from outrage, whether of word or action. He has thought lately that some hints on this subject might be needed, and that the personal influence of the Fellows might be enlisted on this point, especially as regards the prurient tendency of many of the articles in our medical journals.

The speaker then said that he had chosen for his subject one which had been the subject of a most learned discussion before the New York Academy of Medicine during the past winter, *Puerperal Fever;* he said that probably there had never been a discussion in this country, on a scientific subject, which had attracted so much attention. The subject is one of very great importance, and it is of great consequence that some theory shall be established, upon which intelligent and conscientious young practitioners may act in averting the evils of the fearful scourge; for he cannot act successfully and upon an intelligent basis unless he has a clear idea of the pathology, and especially of the etiology of this disease. In the discussion referred to, the two great champions of opposite theories were antagonistic, and we see in this discussion the avowed representation of two distinct schools, known as those of "absorption" and "essentiality;" and each one advocates a method of treatment naturally suggested by, and in accordance with his peculiar views: the one strongly favoring the antiseptic method as preventing absorption; the other looking upon the lochia as the natural cleanser of the parturient canal, and making antiseptic injections of no value.

What then, said the speaker, is puerperal fever? He defined it generally as a febrile condition occurring in a woman, usually within from two to four days after the termination of pregnancy, either at full term or prematurely, characterized by typhus symptoms, high temperature and frequent pulse, rapid formation of local centres of inflammation, suppuration and gangrene, metastatic abscesses, emboli, a violent phlogogenous condition of the blood, and, unless arrested, running on rapidly to disorganization and death. All are agreed as to the condition in which the woman is found at the time when she is subject to puerperal fever. The condition before the tearing away of the ovum from its intrauterine attachment, the state of the body in which, as Tarnier says, "There is hardly a single fibre or drop of blood which has not experienced some modification." The active processes of the production of materials on the blood, the hypertrophied or hyperplastic condition of the uterus and its appendages, everything actively growing and helping to form the new being; all is growth, the preternatural vitality often requiring the interference of medical art to maintain it within wholesome limits. The elements intended for the growing child crowd on the mother's organs, and processes become morbid from unrestrained activity. But labor comes on; the fœtus is removed, the demand for production ceases, and the matter being made for the growing ovum becomes superfluous, useless, and, therefore, a pernicious element to be gotten rid of by nature as soon as possible, by absorption and excretion. Dr. Thomas suggested the tendency of the hyperinosis of the blood to produce thrombosis, and thence to the development of sepsis. But we have also the element of traumatism: the placental site with its fresh, raw surface, the extraplacental surface of the uterus, have been likened by Eustache to a vesication, ready at all times for absorption. Every cervix which has had a show in labor is the seat of a raw surface, after labor, for the absorption of septic matter.

Dr. Barker calls these conditions physiological; but they are conditions easily turned in the scale toward disease. The tears of the cervix and such injuries are surely traumatic; and we can·call the inflammatory conditions and the phlegmons of the connective tissue physiological processes. If nature be unobstructed and vitality good, and still retrograde change goes on whilst no new element of a toxic nature is introduced into the system, is it physiological?

The speaker then referred to the theory, advocated by Braxton Hicks, that puerperal fever is the result of the entrance of scarlatinal and other exanthematous poisons through the lungs, and its development in its own proper type after delivery.

He spoke also of the theory recently advocated by Dr. Kinkead, by which he believes that the puerperal woman has no puerperal accidents except those resulting from direct surgical injuries of the parturient canal, unless there is brought to her, by the physician or otherwise, the atmospheric miasma, or the digital collections from some exanthem.

He then considered the *Absorptionists* or *Infectionists* represented by Dr. Thomas; and, further, the views held by the followers of Semmelweiss (1847) and Pasteur (1872); and the views of the Pangermists, who cannot accept septic poisoning without the intervention of germs; and that, multiple or simple in its nature, however variable its morphology, the microbe is necessary before infection can be produced in the lying-in woman.

In concluding his address, Dr. Smith said that he had no fear of intrauterine injections. His rule is to wash out the vaginal canal certainly, and the uterine cavity if there is reason to believe that it contains clots, or if there is a decidedly patulous condition of the os. He does this with hot water, 115° Fah., and bichloride of mercury (1:1000). If properly administered, this can do no harm. The injection should be given through a return-current tube. The only portions of the coagula in the sinuses which could be disturbed would be that extending into the uterine cavity; and that had better be washed off at any rate. By using the proper tube, or making sure that the os is patulous, no fluid can pass through the oviducts; but even if it did, better that now than pus later. With a careful operator there should be no question of air entering the veins; the syringe should be full before approaching the vulva, and the stream started before its introduction into the canal. This washes everything, and is absolutely preventive of air getting into the veins.

At the conclusion of his address, Dr. Smith exhibited an improved form of uterine irrigation tube, consisting of a long, curved, glass cylinder, perforated at the uterine end with large holes, and containing a central rubber tube for the conveyance of the irrigating fluid.

Dr. Reamy moved that the thanks of the Society be tendered Dr. Smith for his interesting and able address. Carried.

Dr. Jenks, of Detroit, then opened the debate on Dr. Mundé's paper, entitled

CERVICAL FIBROIDS AS A CAUSE OF DYSTOCIA AND THEIR REMOVAL BY VAGINAL ENUCLEATION.

He thought such cases were of rare occurrence. He had met with but one case of dystocia from cervical fibroid. This tumor was small; it was removed by incision and enucleation. Although in favor of the line of treatment adopted by Dr. Mundé, he was not an enemy of the Cæsarean operation, especially when performed early.

Dr. Wilson, of Baltimore, had never met with a cervical fibroid complicating labor, but would adopt the treatment outlined by Dr. Mundé in case of such an event. The time for the operation should be prior to labor. He had removed eight fibroids, varying from four to twenty ounces in weight, from the body of the uterus by a similar method.

Dr. Byford, of Chicago, did not agree with all the conclusions of Dr. Mundé; whether the tumor was sessile or pedunculated, he would wait until labor began for two reasons: (1) Large tumors will be pushed out by the descending presenting part; (2) The child's life will be saved. Two cases, in point, had occurred in his own practice. The first tumor, weighing about twenty ounces, was peeled out of its capsule and crushed by the descending head; the second tumor was dislodged in a similar manner and appeared at the vulvar orifice, where it was easily enucleated. There is the same danger to the mother in labor at full term, and less danger to the child, but no increased risk of septicæmia.

Dr. Dunlap had had no experience in this class of cases, but he could easily imagine that instead of being surrounded by a connective-tissue capsule, the muscular substance of the tumor might be directly continuous with that of the *corpus uteri*. In such event, enucleation would be difficult, and there would be great danger of hemorrhage. It was impossible to tell beforehand whether or not the fibroid was surrounded and isolated by a connective-tissue capsule.

Dr. Van de Warker, of Syracuse, had seen a case somewhat similar to the case of Dr. Mundé. The tumor occurred in the posterior cervical lip of a young Jewess. The forceps was applied before Dr. Van de Warker's arrival, but to no purpose. Cæsarean section was performed; the child lived, but the mother died. The autopsy showed that enucleation would have been perfectly feasible.

Dr. Reamy, of Cincinnati, had seen a case in which the fibroid was located in the posterior lip of the cervix, but extended up above the internal os. The presence of the tumor was not suspected until the woman fell in labor. The capsule was incised, and the tumor enucleated. Both mother and child recovered.

Dr. Reamy thought that, while individual considerations of individual cases must govern their treatment, it was better to defer enucleation until labor had actually commenced. He thought that if the tumor did not interfere with dilatation of the os, enucleation was much easier at this time. At no period during gestation is the woman less liable to sepsis. Notwithstanding the enormous development of the lymphatics, he thought there was considerably less risk of infective absorption.

Dr. Mundé closed the discussion. If the tumor was growing rapidly and endangering the woman's life, he thought the immediate operation of absolute importance. If the tumor was of moderate and constant size, he would wait until labor began. Schröder had deferred his case from the third to the ninth month. The patient came very near succumbing to *post-partum* hemorrhage.

Dr. Thomas once saw a case in consultation with Dr. Hanks and performed Cæsarean section. This was before the invention of the serrated spoon. The operation proved fatal to the mother. Under similar conditions, in another case, he would enucleate. The serrated spoon was an invaluable instrument. The volsellum forceps is not the best instrument for traction upon the tumor. There is room here for a new instrument.

Dr. T. GAILLARD THOMAS, of New York, then read a paper entitled

A FURTHER REPORT UPON EXTRAUTERINE PREGNANCY, EMBODYING SIX CASES.

Before reading his paper, Dr. Thomas made some interesting remarks about, and exhibited a mediæval relic, which had recently come into his possession. Dr. Thomas spent the past summer in a little, out-of-the-way Long Island village.

A friend in this little village had recently received, as a bequest, from France, some thirty large, old-fashioned trunks. These trunks contained old MSS., books, jewelry, dresses, and odds and ends of all description. In one of the trunks a very peculiar harness, which puzzled the gentleman, was found. It was submitted to Dr. Thomas; upon examination, it was found to consist of a jointed steel girdle, covered with velvet—intended to encircle the waist of the wearer—and a semicircular rod of solid steel, with two circumscribed dilatations, joining the circular girdle at right angles. It was evidently meant to be employed in the same way, though for a different purpose, as the female T bandage. The diamond-shaped dilatation, intended to fit accurately the vulvar orifice, was guarded upon both sides, on the inner edge, with sharp steel teeth, pointing downwards, forwards, and outwards. The circular ring designed for the anal orifice was provided with steel teeth in an identical manner. Armorial bearings were discovered upon different portions of the harness. Behind, at the point of junction of the girdle with the perineal rod, was the place for a lock, or rather seal. The diagnosis was plain. It was a *ceinture*, similar in shape and design to the girdle of *Diana de Poitiers*, which every one who visits Paris sees in the *Musée de Cluny*. The Crusaders were evidently in the habit of locking up home effects before their departure to the wars.

Proceeding with the subject of his paper, Dr. Thomas said that at the meeting of the Society in 1882, he had read a paper upon extrauterine pregnancy, embodying twenty-one cases. Since that time he had seen six cases. The diagnosis of extrauterine pregnancy was difficult, and until within the last ten or fifteen years, much more so. As the Fallopian tube usually ruptures, in case of tubal pregnancy, before the fourth month, the necessity of early diagnosis was obvious. The methods of diagnosis were then briefly discussed.

As regards frequency, extrauterine pregnancies were of excessively rare occurrence. Baudl has collected only five cases in seven years, out of 60,000 cases of labor, occurring in the wards of Braun and Spaeth. Dr. Thomas's experience of twenty-seven cases was exceptionally great, and ought to represent between 300,000 and 400,000 labors, or 18,000 gynecological cases, every year for eighteen years. Most of these cases were seen in consultation. He had seen few conditions, from impacted feces to phantom tumor, which had not been mistaken for ectopic pregnancy. It was necessary (1) to make an accurate diagnosis—not easy during the first four months, and (2) to perform in a bold and unflinching manner the operation indicated. It was necessary, also, to cast aside Depaul's *dictum*, that diagnosis, during the first four months of extrauterine pregnancy, was impossible.

The experiments of Leopold, of Leipzig, (*Archiv für Gynäkologie*) had thrown much light upon the theory of this class of cases. This experimenter had placed, within the abdominal cavities of rabbits, embryos of different ages, electric currents of different characters were then passed through the embryos, and autopsies subsequently performed. Leopold, from these experiments, concluded that rupture of the fœtal capsule was more frequent than is generally supposed, and that the dead embryo is usually encapsulated, and remains as a harmless foreign body. Twenty years ago Dr. Stevens Roberts, of New York, wrote a paper on laparotomy, as indicated by this class of cases. He, however, had no actual experience. In January, 1883, Lawson Tait published four recoveries after laparotomy for this condition. In October, 1883, Dr. C. K. Briddon, of New York, described several successful operative procedures under similar conditions.

Dr. Thomas then spoke of his last six cases, giving very full histories, in which no autopsies had been performed.

Case I.—Dr. Ferdinand Beach, of New York, summoned Dr. Thomas in consultation, to see a case of extrauterine pregnancy occurring in a woman twenty-seven years old. When Dr. Thomas saw the woman she was in collapse, from which she partly rallied. On aspiration four fluidounces of amniotic fluid were withdrawn. Laparotomy was contraindicated by the feeble condition of the patient. The autopsy revealed a fœtus of four months in Douglas's pouch, and the remains of extensive peritonitis. Laparotomy would certainly have proved fatal.

Case II.—Summoned in consultation by Dr. Elizabeth Cashier. Diagnosis of extrauterine pregnancy, not advanced to the fourth month, in a woman thirty-two years old, was the result of the visit. The fœtus was killed by means of the electric current and the patient recovered.

Case III.—Diagnosis of extrauterine pregnancy, not advanced to the fourth month. The interrupted and continuous current was applied, under the supervision of Dr. A. J. McKosh. Patient recovered.

Case IV.—This case was brought to Dr. Thomas by Dr. John Lambert, A similar treatment was instituted with like result.

Case V. presented few points of difference in diagnosis, treatment, and result from Case IV.

Case VI. was a case of abdominal pregnancy, advanced beyond the fourth month. Laparotomy was performed, and the fœtal nidus, weighing sixteen pounds, removed. The placenta, attached to a number of points about the small intestines and colon, was ligatured around its edges by the cobbler's stitch, and cut away. These edges were brought to the abdominal incision, and sewed in position, to use an expression of Dr. Pallen's, marsupializing the woman. The patient made an excellent recovery.

In three cases, in which gestation had proceeded respectively to the seventeenth, twelfth, and eleventh month, he had seen the happiest results from allowing the placenta to slough off through the abdominal incision. He recommended waiting, after the fourth month, as long as possible. If the extrauterine pregnancy is protracted beyond the period of normal gestation the placenta shrinks up and tends to shrivel away.

Dr. Mundé briefly narrated the history of a successful case of arrest of tubal pregnancy by galvanism, published in the *Medical Record*, September 27, 1884. In conclusion, he referred to two cases of tubal pregnancy, operated upon, by laparotomy, by Veit; he alluded to two similar cases treated by abdominal section occurring in Lawson Tait's practice.

Dr. Palmer said that the latest time for the application of electricity had been formally stated by Dr. Thomas to be the fourth month; why was it now changed to the fifth month?

Dr. Wilson had seen two cases of extrauterine pregnancy. The first case was treated by electricity with a favorable result. The second case became the subject of abdominal section and died. Would Dr. Thomas perform laparotomy at term, or wait until some subsequent period?

Dr. Howard, in answer to Dr. Harvey's inquiry as to whether or no involution of the uterus occurred after the death of the fœtus, narrated the history of a case he had recently seen, under Dr. Thomas Keith's care, in Edinburgh. The uterus was enlarged, in this case, subsequent to fœtal death.

Dr. Baker narrated the histories of four cases of extrauterine pregnancy, which he had seen in consultation. The first case,—tubal pregnancy, advanced to the sixth week,—after the performance of laparotomy, died. Laparotomy was performed in the other three cases with successful results.

Dr. Thomas closed the discussion by saying that the best time, as a limit to the application of electricity, was about four and a half months. No hard and fast rule could be laid down. He would perform laparotomy at full term, in case the fœtus was alive; if not, he preferred to wait several months, in order to secure shrinkage of the placenta.

Dr. R. B. Maury, of Memphis, then related a case of

TUBAL PREGNANCY, WITH RUPTURE OF THE SAC.

The patient, thirty-seven years old, five children, youngest eight months old, came under observation September, 1883. Symptoms led to the diagnosis of tubal pregnancy, with rupture of sac. Patient made a good recovery by January 1. Dr. Maury concluded by a careful review of the literature and mortality statistics of operative procedures instituted for the relief of this condition.

A BUSINESS MEETING

was held at 8.30 P.M., and the following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—William T. Howard, M.D., of Baltimore.

Vice-President.—Drs. W. L. Richardson, of Boston, and Paul F. Mundé, of New York.

Treasurer.—Dr. Matthew D. Mann, of Buffalo.

Members of Council.—Drs. A. Reeves Jackson, of Chicago; H. P. C. Wilson, of Baltimore; Joseph Taber Johnson, of Washington; and Ely Van de Warker, of Syracuse.

The limit of the number of Fellows was raised to 100. No new Fellows were elected.

(*To be concluded.*)

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 2, 1884.

The President, Fordyce Barker, M.D., LL.D., in the Chair.

Dr. Francke H. Bosworth read a paper on

THE THREE TONSILS—SOME PRACTICAL SUGGESTIONS IN REGARD TO THEIR STRUCTURE, FUNCTION, AND DISEASES.

He said that the views which he had for some time entertained in regard to the three tonsils, while contrary, for the most part, to the generally accepted opinion, would, he believed, if true, serve to clear up much that was now vague on the subject, and also give a more practical direction to therapeutical measures in the management of the commoner forms of disease in the fauces. Having explained that by the three tonsils he meant the two glandular masses between the pillars of the fauces, to which the name tonsil was usually applied, and that mass of glands found in the vault of the pharynx first recognized by William Hunter, and to which the name of pharyngeal tonsil had been assigned, he went on to say that, in his opinion, the description of the faucial tonsils usually given in the text-books was incorrect in several particulars. They were not organs of the body in the sense that the liver and spleen were organs, and, therefore, in this sense, had no especial functions to perform in the economy. In his work on *Diseases of the Throat*, he had subjected himself to criticism by the assertion that in the healthy throat there were virtually no tonsils, and this opinion he still maintained. The "almond-shaped organ covered by a fibrous investing membrane or sheath," which was described by anatomists, had no existence in a healthy throat; but was the result of a morbid process. No portion of the mucous tract probably demanded a greater supply of mucus in the performance of its functions than the upper air-tract. In this region, therefore, the muciparous glands were found not only richly distributed throughout the membrane, but also aggregated in masses, and this tendency to aggregation was especially noticeable in the pharyngeal vault and between the pillars of the fauces. In a condition of health these aggregations of glands did not project prominently from the membrane, and, hence, in a perfectly healthy state their existence was not easily demonstrated by gross inspection. The mucous membrane of the upper air-passages, however, was peculiarly liable to be the seat of morbid action, and while in adults it was the mucous membrane proper which was most liable to be affected, in children the glandular structures were especially susceptible. The tendency of chronic inflammatory processes was to develop hypertrophy, and, hence, a moderate hypertrophy of these glandular masses was found of exceedingly frequent occurrence in young people.

In connection with this point, he alluded to the anatomy and functions of the upper air-tract, and laid special stress upon the fact that the pharynx was in reality composed of two cavities, differing materially in structure and function; the upper pharynx belonging to the air-tract, and the lower pharynx to the food-tract. This view, he thought, was still further sustained by the circumstance that an inflammatory process in the one region did not, as a rule, involve the other. The lower pharynx was perhaps the most exposed region of the mucous tract. It was, therefore, a hard, dense membrane with but few glands; and in order to compensate for this deficiency it was surrounded on three sides with large aggregations of glands, constituting the so-called three tonsils. The sole and only function of these masses of glands was, he believed, to supply mucus to lubricate and moisten the lower pharynx; and the resemblance of the faucial and pharyngeal tonsils was so close that the only difference in structure was easily accounted for by the fact that the pharyngeal tonsil was protected from any impact of foreign substances, and was, therefore, of a soft and spongy consistence; containing connective tissue less in amount and less firmly organized than the faucial tonsils.

From a pathological point of view, still further grounds were found for grouping the three tonsils together, for the same morbid processes which occurred in the faucial tonsils were met with in the pharyngeal tonsil. These were: acute inflammation; chronic inflammation, resulting in hypertrophy; acute follicular inflammation; croupous inflammation, and diphtheritic inflammation. Having remarked in passing, that quinsy was not a disease of the tonsil, but rather an inflammation of the cellular tissue of the soft palate or neighboring parts, and that phlegmonous inflammation did not occur in the tonsil; he stated that the only form of acute inflammation met with in the tonsil was a catarrhal inflammation, attended with hyperæmia, swelling, and hypersecretion, and usually described under the term subacute inflammation. The attack, which was generally the result of exposure to cold, was not of any serious import, and ran its course in from four to seven days. The predisposing cause was enlarged tonsils, and it occurred in children more frequently than in adults, simply for the reason that enlarged tonsils were most frequently met with in children. The affection occurred in the pharyngeal tonsil with the same frequency as in the faucial tonsil, and was attended with the same moderate constitutional disturbance. It would easily be understood, he said, how, in the case of a mild inflammatory process occurring in the pharyngeal tonsil, the symptoms would be mainly nasal. The attack was what was usually regarded as a cold in the head, and was often called an acute coryza; which, he thought, was a frequent error. As he had before remarked, the glandular structures, and not the mucous membrane proper, were the parts generally attacked in children, and their colds, if in the throat, were in the faucial tonsils, and if in the nasal passages, were in the pharyngeal tonsil, rather than in the nasal membrane.

Acute follicular tonsillitis consisted of an inflammatory process, involving one or both tonsils, which was characterized by the exudation into the crypts of the glands of a fibrinous material which filled and distended their cavities. In a paper which Dr. Bosworth had read before the American Laryngological Association, in May last, he had taken the ground that this disease was an essential fever, with a local manifestation in the throat, something in the nature of one of the exanthemata; and in the same paper, he had called attention to the fact that the same disease occurred frequently in the pharyngeal tonsil.

Croupous tonsillitis he regarded as the same disease as the latter, with an eruption which was more marked or efflorescent; a broad membrane covering more or less the whole face of the gland, being found in place of the small, pearly-white spots met with in follicular tonsillitis. The same membrane he had frequently observed on the pharyngeal tonsil, and its appearance was attended with the same general symptoms as in the faucial disease.

In regard to diphtheritic tonsillitis, he remarked that a diphtheritic membrane on the faucial or pharyngeal tonsil occurred in connection with the blood-poison of diphtheria, and that wherever it might be developed, its clinical significance was the same.

Hypertrophy of the faucial tonsils, which occurred mostly in young people, and showed a tendency to subside at puberty, gave rise to a train of symptoms which were mainly due to the mechanical pressure of these glandular masses; while their development was the result of a purely local morbid process, and not, as a rule, the outcropping of any of the constitutional diseases. Hypertrophy of the pharyngeal tonsil had been described by many writers usually under the heading of adenoid tumors, or vegetations at the vault of the pharynx; but in all its aspects, except as regards location, he believed it to be identical with the faucial disorder. In this view, enlarged tonsils in either region were simply masses of diseased glands, whose functions had, in the main, been abolished or prevented by the morbid process which had fixed itself upon them. If the hypertrophy had gone to the extent of developing a glandular mass, which by its presence interfered with the function of the parts, or which in any way gave rise to serious symptoms, the diseased structures ought to be extirpated. Otherwise the condition required no treatment.

It was sometimes suggested that a portion of the tonsil might be removed, but not all; but he could see no more reason for this than for the removal of only a portion of any other morbid growth, such as a fibroid, for instance. The danger of hemorrhage after tonsillotomy had often been urged as an objection to the procedure; but this danger, he believed, was overestimated, since literature recorded no fatal case, so far as he knew, with the exception of those instances in which the carotid artery was cut, and this he considered an unpardonable blunder. Hemorrhage never occurred in the operation upon children, since in them the nutrient artery of the tonsil was small, and always collapsed easily; but in adults, hemorrhage after tonsillotomy was almost the rule. He had never seen a case, however, in which the bleeding was not promptly arrested by the application of a wire heated to a dull-red heat. As regards the removal of the pharyngeal tonsil, he had nothing to add to what he had said in a paper previously read before the Academy, and published in the *Medical Record* of January 13, 1883.

Quinsy. For three years he had entertained the view that quinsy was not a disease of the tonsil, and in that time he had carefully watched and examined the cases coming under observation. In every instance he had been able to demonstrate satisfactorily to himself and others that the tonsil was not involved directly in the inflammatory process, quinsy being, in his opinion, as he had mentioned, an acute cellulitis of the areolar tissue of the fauces. It was true that the tonsil oftentimes presented a red and angry appearance, but this was always secondary, and due to the fact of its nearness to the phlegmon. Occasionally, too, the tonsil was very prominent, being lifted from its bed, and at times projecting far toward the opposite side of the fauces; but this was due to the fact that the phlegmon was situated behind it. The cause of quinsy he believed to be in very many cases the rheumatic habit, as had been suggested by many old writers. Dr. Bosworth then gave a summary of 133 cases of quinsy which he had seen during the last three years. In 115 the phlegmon was in the soft palate, in 11 in one or the other of the posterior pillars of the fauces, in 2 beneath the tonsil, and in 2 in the wall of the pharynx. In many cases there was the clinical history of attacks of rheumatism, either arthritic or muscular. The proportion of such cases had not been definitely noted, but he thought it was fully 60 per cent. The connection between the two diseases seemed to be further evidenced by the fact that a large number of cases of quinsy were aborted by the early administration of the salicylates. In those cases in which the attack was not aborted suppuration seemed to be very much hastened, and the form in which the remedy was administered was as follows:

℞.—Sodii salicylatis, ... ʒiij.
Aquæ, ... f℥vi.—M.
Sig.—One tablespoonful every two hours.

Last spring Dr. Barber had suggested to him the value of bicarbonate of soda locally applied, and he had since then made use of this remedy (although in connection with the salicylates) with gratifying results in one or two cases. In several cases in which the quinsy habit had existed he had given the above prescription of salicylate of soda, with directions to commence its use immediately upon experiencing any symptoms of these attacks, and in no one of them had there been an attack of the disease. If the attack was not abated by medication, it seemed to him that it was of importance to recognize and treat the disease, as far as the local process was concerned, like an abscess in any other portion of the body; and in this connection he urged the importance of digital examination of the fauces.

The President remarked that many of the ideas advanced in the paper were novel to him, and were of such a nature that they could only be discussed intelligently by those who had directed special attention to the throat; but there were some points in it which were eminently practical, and which were of the greatest interest to the general practitioner, as well as the specialist. Every medical man was liable to meet with cases of quinsy; for instance, in his own practice he had met with patients who were subject to attacks of this disease every one or two years, and the affection sometimes gave him no little trouble. Sometimes he used to think that he was able to avert the attack by the use of large doses of quinine, in connection with opium, and four years ago he had commenced to employ bicarbonate of soda locally in quinsy in addition to the internal use of the remedies just mentioned. He could not now remember how the use of soda in this connection had first been suggested to him; but since he had commenced its employment, not a single case, in which he had had the opportunity of recommending it sufficiently early, had gone on to suppuration. In some of the cases, indeed, which were even quite late and in which suppuration seemed unavoidable, resolution had taken place, and in this connection he related a striking case which he had seen for Dr. Bosworth.

Dr. Douglas said that there were a few things in the paper to which he must take exception; but, in general, his judgment accorded with it. In regard to quinsy, he had already expressed an opinion substantially in agreement with that of Dr. Bosworth. He considered it as in reality a rheumatism or a gout, and personally he had met with it more frequently in the gouty than in the rheumatic. Thus, he had often seen attacks of quinsy alternately with those of gout; the patient one year suffering from one, and the next from the other. The treatment which he generally adopted was in the main the same as that which had been suggested. For many years he had been not only in the habit of recommending the local application of bicarbonate of soda by means of the finger, as Dr. Barker had advised, but also of using it as an injection to be thrown into the posterior nares. Inflammation of the posterior nares he regarded as a frequent cause of the tonsil trouble. The soda had the effect of liquefying the secretions, and its use always afforded a great deal of comfort to the patient. In connection with local measures he also employed the ordinary constitutional treatment for gout or rheumatism.

As to the statement made by Dr. Bosworth, that the tonsil did not appear at all in the healthy throat, he believed that this was strictly true. He also thought that the same condition which resulted from irritation in the glands constituting the so-called tonsils was very liable to occur in the group of glands at the base of the tongue, and here, too, the treatment by bicarbonate of soda was of great service. In addition, however, he was now in the habit of using a remedy which had recently been introduced for the relief of neuralgia, viz., menthol. This he employed as a spray, in the form of a powder consisting of one part of menthol to one hundred of sugar of milk. He could not agree with Dr. Bosworth that these hypertrophic structures could not be removed except by means of the knife. In his experience he had found that they could be effectually removed by a course of mild treatment; but the process was apt to be rather a long and tedious one. The application which he made for this purpose consisted of a mixture of camphor and salt, with a little ammonia. If this was used persistently with sugar of milk in the strength of five per cent., it would certainly remove enlarged glands. Before closing, he wished to call particular attention to the glands lying at the base of the tongue, to which he had referred. Their hypertrophy indicated a general dyscrasia, probably either rheumatic or gouty, and he had usually found that there was disorder of the liver in connection with this. He then mentioned another constitutional affection, which he termed infusorial catarrh, and stated that he had treated it successfully with minute doses of quinine; one-tenth of a grain, in the form of a triturate, being given every hour.

Dr. Frank H. Hamilton said that there was one point upon which, as a surgeon, he wished to be permitted to say a word. He was inclined to agree with the author of the paper that these excrescences ought to be removed, and that this could be best done by means of excision; but at the same time, as they were met with only exceptionally after the twenty-first year, he thought it was well not to interfere unnecessarily. Possibly the lapse of time had more to do with the shrinking of the hypertrophied tonsils which Dr. Douglas had mentioned as occurring under a mild course of treatment than the remedies which he had employed. Dr. Bosworth had said that the use of the knife was unattended with danger; and he would assent to this statement, if it was qualified so as to exclude cases of acute inflammation of the tonsil and instances of the hemorrhagic diathesis. He believed that it was the venerable Dr. Gibson who had first enunciated that it was sufficient to remove a portion of the hypertrophied tonsil; but this he thought to be a grave error.

DR. ABRAHAM JACOBI expressed the opinion that when the tonsils had once become permanently enlarged, they were amenable to no other treatment than the use of the knife. This opinion was based, in the first place, on experience, and he agreed with Dr. Hamilton that if the growth apparently became diminished under such a mild course of treatment as Dr. Douglas had described, it was in reality due to the lapse of time. The relation of the tonsils to the surrounding parts became very appreciably altered as the individual grew older. The pharynx of the child was very small, but as the age advanced it grew longer, and consequently a hypertrophied tonsil which in early childhood might seem a very serious matter, would, after the course of years, appear very much smaller, although no actual change might have occurred in its size. In many instances, however, as time passed, the growth became not only relatively, but actually smaller. The hypertrophied tonsil became a hard, dense mass, consisting for the most part of elastic tissue, and he did not believe that any treatment, except that which destroyed, would have any effect upon it. As to the matter of hemorrhage, the tonsil when cut into (unless it was in a state of active inflammation) would bleed but little, as a rule. Sometimes, however, there was severe hemorrhage; but this was almost invariably from some other part. In some cases, for instance, the tonsil could not be excised without removing also a portion of the soft palate. When such hemorrhage had occurred, he had used both styptics and the red-hot iron, and had failed to control it. The only really effectual means to use, he had found, was digital compression. The time that it was necessary to keep the finger in contact with the bleeding surface, differed in different instances, and in one case he had been obliged to keep up the compression for a whole hour. He had seen an adult lose as much as a quart and a half of blood after tonsillotomy.

He could not agree with Dr. Bosworth in considering follicular tonsillitis as an essential form. He preferred to regard folliculitis as a local affection, in which only a few, or perhaps but a single follicle might be involved; but in those cases which seemed to suggest an essential form, he did not think it necessary to seek for a new one, since they were sufficiently explained by one of two essential forms already recognized, viz., influenza and diphtheria. He believed there was great danger of overlooking genuine cases of diphtheria. The constitutional symptoms might be present, but the local manifestations entirely escape notice on account of their location. Again, diphtheria might be an exceedingly mild disease, giving rise to no fever or constitutional disturbance whatever; but it was always characterized by a membrane, and that membrane showed contagion. Even though of this mild type, the disease was always to be regarded as malignant, since from the lightest case other individuals might contract the most severe form of the affection. He had seen so-called folliculitis give rise to undoubted diphtheria in other members of the family, and, hence, he thought there could be no doubt that they were really cases of diphtheria. He did not mean to say that he considered every case of follicular trouble diphtheria; but at the same time he thought it could not be too strongly impressed on the minds of medical men that many cases of diphtheria were very light and closely resembled folliculitis. The idea was still too prevalent that diphtheria was almost necessarily fatal, and that if the case was light, it could not be genuine diphtheria. In reality, however, there was much more danger to the community from these light cases than from the more serious ones, on account of the lack of precaution that was likely to be taken. This matter he considered of great practical importance from a sanitary point of view.

DR. LEONARD WEBER doubted whether the idea that quinsy was of gouty or rheumatic origin were true, and thought that in accepting it we were probably following too closely the English writers, since in England gout was a much more common disease than in this country. He recalled fifteen or twenty cases of quinsy which he had treated, the patients being of all ages; and said he had yet to meet with the first instance in which there seemed to be any well-founded connection between the disease and a constitutional dyscrasia, such as the alternation of gout and quinsy in different years, which Dr. Douglas had mentioned. As to the treatment by internal medication, he had had no experience. He was always in the habit of evacuating the abscess as soon as possible, and in order to accomplish this he was accustomed to make frequent digital examinations.

THE PRESIDENT alluded to the articles on the use of guaiac in quinsy, which appeared in the early numbers of the London *Practitioner*, and said that he had tried the remedy faithfully but had never succeeded in getting any satisfactory results from its use.

DR. ALFRED C. POST said that he was in the habit of resorting to excision in the treatment of hypertrophied tonsils, and that in his experience the hemorrhage was slight. Even if it were possible to reduce their size by a prolonged course of treatment, he thought the use of the knife was preferable.

DR. HAMILTON said that, in speaking for a second time, he wished merely to call attention to what he considered the best and most expeditious method of controlling hemorrhage after tonsillotomy, and that was the application of cold in the form of the ice or snow "cravat."

DR. FRUITNIGHT mentioned the abortive treatment of quinsy by means of tincture of aconite root, as suggested by Sidney Ringer. In three cases he had himself successfully aborted attacks of the disease by giving one drop of aconite every hour for five or six hours.

DR. W. S. JARVIS said that in most respects he endorsed the opinions of Dr. Bosworth, and he thought that the latter deserved great credit for his original researches in regard to acute follicular tonsillitis, the pharyngeal tonsil, and the pathology of quinsy. In regard to hypertrophy of the faucial tonsils, he did not doubt that the masses could be removed by the application of such caustics as chromic acid and chloride of zinc; but, as a rule, such treatment was too slow, the condition of the patient requiring that they should be removed at once. In regard to the question of hemorrhage, and as to whether the bistoury or the tonsillotome should be employed for excision, there was a difference of opinion among various authorities. His own experience had taught him that there was one class of tonsils which ought not be removed with the knife, and another in which the knife should certainly be used. The first kind was the hard or cirrhotic tonsil, which was generally met with in syphilitics, and if this were cut into, severe hemorrhage was almost sure to result. Hence, the knife was to be avoided entirely in this class of cases, and the cautery or snare used in its place. The second kind, in which the knife was always applicable, was the soft tonsil, and this could be readily differentiated from the other. As to the amount of tissue to be removed, he was among those who thought that a certain portion of the mass should be allowed to remain. There was one function of the tonsil, he believed, to which attention had not as yet been called, and that was, that it formed a pad for the protection of the internal carotid artery from injury, and hence it was not advisable that the entire gland should be taken away.

Dr. Brandeis said that he had been rather startled by some of Dr. Bosworth's statements in regard to the physiology and pathology of the tonsils. While, however, he was satisfied in his own mind that these organs served some useful purpose, he was quite willing to acknowledge that a diseased tonsil was worse than no tonsil at all, and should therefore be removed. The advantage of the tonsillotome over the knife, he thought, was not sufficiently recognized. In the first place, it not only cut off, but crushed the diseased organ. Again, in using the bistoury or scalpel it was necessary first to draw out the tonsil with vulsellum forceps, and the natural relation of the parts was thus disturbed; which was not the case when the tonsillotome was used. Still another point was, that with the latter a perfectly vertical incision could be made; while with the knife, the incision was necessarily semilunar, so that the inferior portion of the organ, which was generally the part most affected by disease, could not be successfully removed. The tonsillotome which he preferred to all others was Mackenzie's modification of Physick's instrument; its great advantage being that the blade was pushed from before backwards, instead of being drawn from behind forwards, as was the case in most others. There was rarely any hemorrhage, and after the operation the patient was directed to sip slowly a glass of water mixed with half an ounce of tannic acid. In the only case in his experience in which there had been any serious hemorrhage, he had been able to control it with success by a finger on the cut surface and the fingers of the other hand externally over the carotid artery. Unlike Dr. Bosworth, he had found that children were never more liable to hemorrhage after tonsillotomy than adults. He confessed that he had been somewhat chagrined at Dr. Bosworth's explanation of the pathology of quinsy, since he was at present engaged in the preparation of a paper on peritonsillitis, a name which Fränkel had originated. He did not deny that quinsy was sometimes an inflammation of the fibrous and cellular sheath of the tonsil; but to say that all cases of the disease were of this kind, he thought, was going too far, since many cases seemed to be limited to the aggregation of follicles. In conclusion, he referred to the supposed constitutional origin of quinsy, and mentioned that many years ago Hope had lauded guaiac as a specific for the disease. Personally, he was in the habit of using one drop of aconite with fifteen or twenty drops of the ammoniated tincture of guaiac for the purpose of aborting attacks of quinsy, and if the cases were seen in time the method was generally successful. As a rule, however, the cases were not seen until too late for this.

Dr. J. Leonard Corning related a case of very severe hemorrhage after tonsillotomy which he had controlled perfectly in thirty seconds by means of an instrument which he had devised for compressing the carotid artery.

Dr. Bosworth, in closing the discussion, said that the paper was a very brief one, and that it was impossible within its limits more than to glance at many of the points to which he desired to call attention. He had not stated that the reduction of genuinely hypertrophied tonsils was impossible without the use of the knife, but that this could not be done by means of local astringents. In this condition the connective tissue was organized and contracted in the same manner as in cirrhosis of the liver or the lungs. In regard to hemorrhage after tonsillotomy, he believed that it was never obstinate in children, and thought that the statement of Guersant, who had performed the operation in seven thousand cases in children, was conclusive on this point. Hemorrhage was almost invariably from the nutrient artery, which was situated about the junction of the upper third with the lower two-thirds of the tonsil, and he believed that the one absolutely safe measure for controlling it was the repeated application, from above downwards, of the heated wire. There was nothing better for the purpose than an ordinary knitting needle.

In follicular tonsillitis there was almost always a fully developed chill, followed by a febrile movement in which the temperature rose to 103° or more. In some instances he had seen the constitutional disturbance as great as in typhoid fever, and he could not understand how such a condition should be simply symptomatic. The disease ran a definite course, and resembled the exanthemata in many other respects, although one attack had no effect in preventing a future recurrence. It seemed necessary, therefore, to recognize that it was something more than a purely local affection. The relation of follicular tonsillitis was a matter offering a very wide field for study, and in regard to which there was much yet to be explained. He could only remark in passing that he believed they were both bacterial diseases; that the germs of both were of very closely connected origin. He next referred to the investigations, in regard to the treatment of quinsy, made by Lauder Brunton, and recorded in the *Practitioner* ten years ago, to which Dr. Barker had alluded, and said that the answers that Dr. Brinton received to his circular of inquiry constituted a literary curiosity. The remedies recommended were about a hundred in number; but a majority of the medical men who replied gave the preference to guaiac.

One of the most important points of his paper, Dr. Bosworth thought, was in regard to the abortive treatment of quinsy, and the therapeutic measures which he had adopted with success for this purpose seemed to indicate a distinct relation between this disease and rheumatism. Dr. Brandeis had spoken of the function of the tonsil; but if he was correct in his opinions, the tonsil was simply a disease, and, consequently, could have no function. Neither did it have any sheath; but peritonsillitis, he thought, was a useful term to employ. The connection between the tonsils and quinsy was purely an incidental one, depending on the location of the former; and patients whose tonsils had been removed were quite as liable to have quinsy as those in whom the operation had never been performed.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, September 25, 1884.

THE PRESIDENT, JAMES TYSON, M.D., IN THE CHAIR.

DR. GUY HINSDALE exhibited

A PHANTOM BRAIN,

constructed in colossal proportions and intended to show the course of the fibres in the human brain and their relation to the several nuclei and the spinal cord. The model has been recently purchased for the Mütter Museum of the College of Physicians, and was constructed by Buechi, of Berne, Switzerland, under the supervision of Prof. Alby.

The height is 125 cm.; its width, 70 cm. The cortex is dotted over with numerous corks 2 cm. long, which are distributed in systematic order. The basal nuclei, of a much larger size, are seen in their appropriate places. The spinal cord, made up of ganglia and columns of wires of different colors, is represented throughout a portion of the cervical region. These columns of the cord, of different colors to distinguish their function, lead to their appropriate ganglia, of corresponding color, or to the areas in the cortex, which are marked by similarly colored corks.

Taking first the anterior and lateral columns of the cord painted red, we can trace these motor fibres to the anterior and lower portion of the medulla, where they decussate, through the pons, to the internal capsule where, between the caudate nucleus of the corpus striatum and the optic thalamus, they radiate to the cortex. They are seen to come chiefly from the convolutions about the fissure of Rolando. Wherever red balls are seen, from that point a red motor fibre descends to the anterior or lateral columns. It will be seen that the column of Türck, or direct pyramidal tract, is in relation with the posterior part of the lateral column of the opposite side. As regards the exact localization of the sensory and motor tracts of the spinal cord, there is still some discrepancy of opinion. Prof. Ferrier states that the antero-lateral columns are usually regarded as the chief motor paths, but quotes the recent and careful experiments of Ludwig and Woroschiloff (1874), who place the motor paths in the lateral columns only. The anterior columns (of Türck) are regarded more as commissural connections between the motor nerves and adjacent segments, and not at least the direct paths of motor impulses proceeding from the brain.

Tracing the fibres of the posterior columns, colored blue, we find them represented as wholly decussating in the medulla, forming the posterior third of the internal capsule and passing to the corpora quadrigemina and optic thalami, colored blue, which are the great centres of sensation.

The external portion of the lateral columns, colored green, are seen to lead to the cerebellum, decussating near its superior surface. The yellow fibres of the model place the basal nuclei in communication with the cortex; the white fibres, constituting the corpus callosum, are purely commissural. The columns of the cord, as represented in the model, correspond precisely with the arrangement given by Flechsig, and endorsed by Charcot and Hammond. Ludwig and Woroschiloff argue that "a vicarious interchange of function potentially exists between different parts of the cord." Ferrier admits that, in determining the course of the cerebral fibres, anatomy reveals very little, and that physiological experiment is practically the only means at our command. Many more observations and experiments will have to be made before it can be said that the sensory and motor paths have been exactly defined and all views reconciled.[1]

DR. CHARLES MEIGS WILSON, for MR. CLINTON DENT, of St. George's Hospital, London, presented specimens from

A CASE OF INFANTILE MOLLITIES OSSIUM,

with the following history: "This specimen shows the inner vertical half of the right femur of a child, æt. 16 months. There is a pseudo-fracture of the bone. The medullary canal is filled up, and a considerable deposit of enveloping callus maintains the fragments in apposition. The entire bone is unnaturally soft, and in the recent state showed this peculiarity still more strongly. The bone was removed *post-mortem* from the body of a feeble, ill-nourished child. No history of syphilis could be gotten from the parents, and the child showed no evidence of congenital syphilis. Some of the ordinary symptoms of rickets were observable—*e. g.*, bending of the ribs, general tenderness, enlargement of the wrists, etc. No symptoms of scurvy were present. It was evident that there was much more than rickets in the condition. When the child was first admitted to the hospital, there were pseudo-fractures of the right humerus and left tibia, besides the fracture of the right femur. The humerus, which was bent at a right angle, was forcibly straightened. It bent like a bar of soft metal, and remained in its new position. It was, however, put in a light pasteboard splint. Subsequently with the removal of the splint, the bone again gradually bent and was again forcibly straightened. While in the hospital under observation, the femora became affected in the usual place, *i. e.*, a little below the trochanters. Some swelling and tenderness were noticed, and then, although the child was kept constantly in bed, the bones became bent; ultimately, in about ten days, the pseudo-fractures became complete. Great improvement of general health as evidenced by rapid increase of weight resulted from treatment of rest, good diet, and cod-liver oil. The child finally died from an attack of whooping-cough after having been under observation a few weeks."

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[1] Ferrier. Functions of the Brain, p. 5, London, 1876.

This is a very rare form of bone-disease, especially in the young. It is seen occasionally in England—never with us. The pathological changes seem to be of a retrograde character. Sometimes lipomatosis takes place. Sometimes there is a metamorphosis, first to cartilage and then to embryonic tissue. This specimen shows, in different portions, both changes. The disease is attended with marked fatality. In this specimen the cortical substance is attenuated and the medullary cavity is enormously enlarged. The bone seems deficient in lime-salts. Some authorities believe that the lactic acid found in the chemical analysis of such bones is accountable for this; this fact is mentioned in order to elicit discussion. Other observers have found enormous quantities of oxalate of lime in the urine of patients with malacosteon bones. One curious fact is the effort which nature makes to repair the fractures, as shown in this specimen. This callus seems deficient in inorganic matter and eventually becomes reabsorbed. Syphilis, scrofula, and scorbutus have all been assigned as causes of the affection. Most authorities deny the existence of the disease in children, assign it to middle life, and speak of it as being lighted up or aggravated in women by pregnancy.

NEW INVENTIONS.

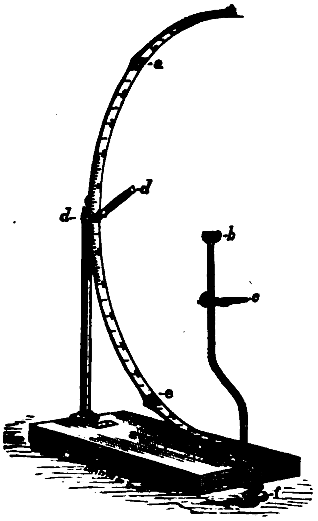
A NEW PERIMETER FOR MEASURING THE VISUAL FIELD.

By B. ALEXANDER RANDALL, A.M., M.D.,
OPHTHALMIC AND AURAL SURGEON TO THE EPISCOPAL HOSPITAL, ETC.

As the points of mutual contact of ophthalmology and neurology increase in number and the circle of those interested in ophthalmic methods of examination broadens, the need grows more pronounced for those instruments of precision more or less essential to such studies. Such instruments are already almost hopelessly numerous; yet complexity, cost, or difficulty of manipulation exclude many from their employment. This is most distinctly the case with the primeter for measuring the field of vision; and an instrument at once simple, inexpensive, and accurate, which should demand the minimum of time in its use, has long seemed a pressing want. So time-taking has the mapping of the field generally been, that even ophthalmologists have been slow to avail themselves of the important data thus attainable; while the neurologists and general practitioners, did they possess the usually cumbersome and costly forms of apparatus now obtainable, would, probably, still more rarely employ them. Automatic registering primeters, like those of Stevens and McHardy, have done much to lessen the time-consuming difficulty; but the complexity of these instruments leaves much to be desired, while their cost puts them out of general reach.

Studying for some years over these questions, the writer has endeavored to devise an instrument fulfilling some, at least, of these desiderata; and although not yet satisfied, has planned a perimeter which seems an advance and worthy of being placed before the profession. The instrument may be described as follows:

A brass arc backed with iron, comprising a little more than a semicircle, revolves about its central point (*d*), which is supported by a rigid upright rising from a solid base of oak; a graduated disk and index at the point of rotation indicating at all times the angular inclination of the arc to the horizontal. From this central point the arc extends with a radius of curvature of 30 c. m. to 100° in each direction; both back and front being graduated, the latter in intervals of 5° except near the centre, where for 20° the single degrees are marked. The position of the examined eye at the centre of the described hemisphere is marked by a crescentic rest (*b*), against which the lower margin of the orbit may be placed, giving accurate centring and complete steadiness; while an adjustable chin-rest (*c*), added at the suggestion of Dr. James Wallace, makes the maintenance of the position easier. The fixation-point is a porcelain button marked with a small cross and carried by a slotted arm (*d*). It is capable of being placed either at the centre of rotation or at any point within 18° of it, thus permitting the optic papilla, the central landmark of the ophthalmoscopic picture, to be used as the centre of the mapped visual field. Upon each arm of the arc travels a small carrier (*ee*), with spring-clips to hold the white or colored objects employed in the test; even motion being secured by endless cords passing over little pulley-wheels to avoid friction, and set in motion by milled heads near the centre of rotation. A black disk fits behind the centre so as to screen the cuff and the motions of the hand in driving the carriers. The carriers cannot move past the centre, nor indeed quite to it, as might occasionally be convenient; but this can be really met by slight eccentric placing of the fixation-point; while the gain in rapidity of work in all ordinary cases more than outweighs any disadvantages of the double arrangement. In testing with colors, the disk of Dr. Noyes,[1] which allows of the change of the colored disk at a touch, may be placed upon the carrier, furnishing a complete check on any deception on the part of the patient. A ready adjustment for the relative height of patient and table is made by a screw-foot (*f*) on the front of the base.



Little claim to originality can be made for the instrument, nor is it a complete fulfilment of the needs in the matter; but it is simple, efficient, and comparatively inexpensive; and while studying out the problem of a more perfect self-registering instrument, it has seemed worth while to bring forward this simpler form to meet most of the present requirements. Simplicity has been aimed at rather than elegance; but the perimeter is neat and free from much of the cumbrousness of many others. Most of the weight is in the base and merely to give it steadiness; and the instrument may be moved about without the least difficulty and laid aside when out of use. Its cost is $10, less than one-half that of most of the simplest forms of perimeter in the market. It is constructed by Mr. Ivan Fox, of 1635 Chestnut Street, to whom is due much of the credit for the mechanical details.

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[1] Trans. Am. Ophth. Soc., 1871, page 118.

1806 CHESTNUT STREET, August 27, 1884.

NEWS ITEMS.

THE CHAIR OF SURGERY IN THE SOUTHERN MEDICAL COLLEGE, Atlanta, rendered vacant by the resignation of Dr. Thad. Johnson, has been filled by the election of DR. J. McF. GASTON, formerly of Columbia, South Carolina.

FRACTURE OF ARM BY MUSCULAR ACTION.—Dr. Amerman, of Danville, Pennsylvania, reports a case of fracture of the humerus in a base-ball pitcher, produced by muscular effort in pitching a ball to the batter in a recent game played at that place. The fracture was a transverse one, occurring between the middle and lower thirds of the arm.

SUDDEN DEATH FROM GANGRENE.—DR. M. J. B. MESSEMER writes us that, as Deputy Coroner of New York City, he has met with a great many cases of persons dying suddenly, who were affected with gangrene of the right hand or arm, caused by injury or frostbite. The gangrenous gases pass through the veins of the right arm into the vena cava and right side of the heart, causing instantaneous death by syncope or collapse. When the right side of the heart is cut into, after death, a puff of gangrenous gas can be distinctly discerned.

THE CHOLERA IN ITALY.—A special cablegram dated London, October 4, to the daily *Times*, of Philadelphia, says:

"The record of the week seems to justify the belief that the spine of the cholera epidemic has been broken and its disappearance is now only a question of weeks. It was ten weeks ago last Thursday that the first fatal case of cholera was reported in Italy and the deaths have thus far made an average of nearly a thousand weekly. It is sixteen weeks to-day since the first death was recorded in France, making about 375 deaths per week in that country.

"The mastery of the plague in Genoa is really the first fine medical feature of the whole siege. Immediately after the pest broke out with virulence in that city, a fortnight ago, the authorities had the water supply analyzed and they discovered that of three sources of supply that of the Nicolai Company was awful, the municipal works supply was pretty bad, and that of the Gerzenti Company was pure. Immense and costly efforts were promptly made to shut off the first two sources and to turn the latter water into all the pipes. An immediate improvement was noticed and the mortality declined after eight days, instead of advancing for weeks, as has usually been the case. There is a cordon around La Spezzia still, in spite of the universal protest.

"The mortality in Naples among the better classes has been more than it has been at any other visitation of recent times. It includes eleven priests, a score of nuns, and as many doctors. The temporary orphan asylum at Naples is crowded with children, and hundreds of others are privately cared for, Lady Otway having eleven in a small orphanage of her own. According to the official and municipal figures there have been 9512 deaths in Italy up to date, but people who ought to know say, that in the terrible month of September fully 1200 died at Naples alone, and a Roman paper estimates the total deaths up to Wednesday at 10,800. Out of sixty provinces in Italian mainland forty-four have been infected, but only thirteen have had more than 30 deaths, and only eight have had more than 100 deaths."

NOTES AND QUERIES.

A CORRECTION.

To the Editor of THE MEDICAL NEWS.

SIR: Dr. Sternberg has called my attention to an error of quotation in my article on "Chlorine," in THE NEWS of Sept. 27th, p. 343, in regard to the germicide and restraining powers of alcohol. The corrected statement reads 40 per cent., 95 per cent., 20 per cent., 10 per cent., instead of 0.40–.95, 0.20–.10 as presented by an oversight in my paper.

Very respectfully yours,
RICHARD MCSHERRY, M.D.

BALTIMORE, Oct. 2, 1884.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 30 TO OCTOBER 6, 1884.

CLEMENTS, B. A., *Major and Surgeon.*—In addition to present duties, to take charge of the office of the Medical Director of the Department during the temporary absence of that officer.—*Par. 1, S. O. 195, Department of the Missouri*, September 29, 1884.

BENTLEY, EDWIN, *Major and Surgeon.*—Granted two months' leave of absence, with permission to apply for two months' extension, to take effect upon assignment to duty in Department of Texas of Surgeon F. L. Town.—*S. O. 121, Headquarters Division of the Missouri*, September 30, 1884.

BARTHOLF, JOHN H., *Captain and Assistant Surgeon.*—Assigned to duty at Fort Ringgold, Texas, as Post Surgeon.—*Par. 5, S. O. 129, Headquarters Department of Texas*, September 25, 1884.

CRONKHITE, HENRY M., *Captain and Assistant Surgeon.*—Assigned to duty as Post Surgeon at Fort Reno, Indian Territory.—*S. O. 197, Department of the Missouri*, October 2, 1884.

CRAMPTON, L. W., *Captain and Assistant Surgeon.*—Granted leave of absence for one month and ten days.—*S. O. 60, Headquarters Division of the Atlantic*, October 2, 1884.

GIBSON, A. J., *First Lieutenant and Assistant Surgeon.*—Assigned to duty as Post Surgeon Fort Winfield Scott, California, relieving Assistant Surgeon A. S. Polhumus.

POLHUMUS, A. S., *First Lieutenant and Assistant Surgeon.*—Upon being relieved, to report to Commanding Officer Fort McDermit, Nevada, as Post Surgeon.

WHITE, R. H., *Captain and Assistant Surgeon.*—To report to Commanding Officer Angel Island, California, as Post Surgeon, relieving Assistant Surgeon C. K. Winne.

WINNE, C. K., *Captain and Assistant Surgeon.*—Upon being relieved, to report to Commanding Officer Benicia Barracks, California, for duty as Post Surgeon, relieving Surgeon C. C. Byrne.—*Par. 1, S. O. 115, Headquarters Department of California*, September 23, 1884.

EVERTS, EDWARD, *First Lieutenant and Assistant Surgeon.*—Granted leave of absence for one month, with permission to leave the limits of the Department.—*S. O. 145, Headquarters Department of California*, September 24, 1884.

BLACK, C. S., *First Lieutenant and Assistant Surgeon.*—Granted leave of absence for fifteen days, to take effect this date.—*Par. 3, S. O. 131, Department of Texas*, September 29, 1884.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLV. SATURDAY, OCTOBER 18, 1884. No. 16.

ORIGINAL LECTURES.

ON THE TREATMENT OF CHRONIC RHEUMATISM AND GOUT.[1]

A Clinical Lecture.

BY PROF. DUJARDIN BEAUMETZ,
OF PARIS, FRANCE.

GENTLEMEN: I propose in this lecture to consider the treatment of chronic rheumatism and of gout. By these words chronic rheumatism I do not mean all chronic forms of rheumatism, but rather that variety which affects the bones, and which is characterized by those deformities of the small joints which have given to this affection the name of *nodose rheumatism* or *arthritis deformans*.

Confounded from remote antiquity under the name of arthritism, gout and chronic rheumatism have been now grouped in the same description, now constituted as distinct entities, according as writers have taken for their basis the etiology, the symptomatology, or the pathological anatomy of these two affections. To-day this question, after many vicissitudes, seems to have reverted to the point from which it started, and if we observe between gout and rheumatism differences radical and complete, we recognize also that they may derive their origin from one common hereditary source.

To this hereditary cause of these two diseases we give the name of arthritism, and if gout and rheumatism have at their origin many points of contact, they soon separate in two divergent directions, of which the two extremes are chronic arthritis deformans, on the one hand, and acute gout on the other. This opinion, which I defended at the time of the discussion which arose in the Society of Hydrology, between the partisans of arthritism and those who, like Durand Fardel, persist in seeing in gout, chronic rheumatism, and acute rheumatism distinct morbid entities, I maintain to-day, for when you carefully trace back the genealogy of arthritic patients, you almost always find either rheumatism in all its forms, or gout in all its modalities. At the same time, take note that quite recently our colleague Lancereaux has withdrawn arthritis deformans and dry arthritis from the category of arthritism to place this affection in the group of herpetic disorders. But this is a new view which needs to be discussed before being adopted.

Scarcely recognized at the beginning of this century, chronic rheumatism with articular deformity, which is described under the name of *nodose rheumatism*, has not been well understood till within a few years, and it is especially to the School of Salpêtrière and its eminent master, Prof. Charcot, that we are indebted for the exposition, both from the standpoint of symptomatology and pathological anatomy, of the palpable and striking differences between gout and arthritis deformans, to the latter of which even now some authorities persist in giving the name of *gouty rheumatism*.

Even if we well understood the lesions of chronic rheumatism (arthritis deformans), the pathogeny and the course of the affection, it must be confessed that the therapeutics of this disease has made little progress, and our efforts remain well-nigh impotent to arrest the progressive and invading march of those lesions which eventually constitute incurable infirmities, and condemn the unhappy patient to a life of invalidism.

The treatment of chronic rheumatism comprises external and internal means. The internal treatment comprehends but few medicaments; those most in use are arsenic and arsenical preparations, iodine and the iodides, and salicylate of soda. Arsenic is given internally, as Charcot recommends, or employed in the form of arsenical baths (which have been especially vaunted by Noel Gueneau de Mussy); this treatment, whether it consists in the internal administration of arsenic or in the use of the baths, often provokes a return of the painful crises; hence this medicament should not be resorted to when there are any acute symptoms.[1]

However different these two modes of exhibiting arsenic may be, their principle of action is essentially the same, namely, by absorption of the medicament and its penetration into the economy, the rate of whose nutrition is raised. It must be confessed, however, that cutaneous absorption from baths is infinitesimal or nil.

Iodine has been employed in chronic rheumatism by Lasègue. He made use of the tincture, of which he was in the habit of giving large doses, as much as a drachm and a half a day (6 grammes). It is given diluted in water, or, what is better still, in a little old Spanish wine, which constitutes a mixture which is but slightly disagreeable and is easily taken with the meals. Instead of iodine, iodide of potassium may be given. Besnier proposes to give the iodide in syrup of coffee, which he thinks is the best adjuvant, and from 1 to 3 grammes a day (15 to 45 grains) may be given in this way. Iodine and the iodides in these cases act especially by stimulating the organism and energizing nutrition. These are the most important indications to fulfil in the treatment of chronic rheumatism, and

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[1] Translated from advance sheets by E. P. Hurd, M.D., of Newburyport, Mass.

[1] Gueneau de Mussy has recommended two kinds of arsenical baths; the arsenical bath pure, which contains from fifteen grains to two drachms of arseniate of soda per bath, and the compound arsenical bath, which with the same quantity of arseniate of soda has from three to five ounces of carbonate of soda. Apropos of the application of these baths, Gueneau de Mussy distinguishes two forms of rheumatism: chronic rheumatism with little pain, and rheumatism with subacute attacks. In the first kind he would employ the compound arsenical bath, in the second the bath containing only the arsenical salt. The temperature of the bath varies from 86° to 95° F. (30° to 35° C.); as for its duration, that depends on the degree of excitability of the patient. (Gueneau de Mussy, Clin. Med., t. i. p. 271, Paris, 1874.)

Garrod has justly insisted on this point in showing us that the dominant fact of the treatment ought to be to fortify the system and to excite the nutritive activity, which is considerably lessened; consequently, he recommends ferruginous preparations, cinchona bark, and, above all, cod-liver oil.

These indications are quite different from those which are applicable to the treatment of simple gout, and which should make us altogether discard in the treatment of chronic rheumatism the alkalies, which are heroic medicines in the gouty diathesis. This proscription of alkaline preparations ought not to include salicylate of soda. Whatever Sée may have said, who has affirmed that salicylate of soda may cure chronic rheumatism, I have never obtained the same effects from it. Nevertheless, while recognizing that it is impotent to attempt to cure chronic rheumatism with joint deformities, the salicylate may be employed to advantage in the acute exacerbations which attend this disease; it diminishes then both the acuteness of the pain and the intensity of the febrile manifestations.

The internal treatment, then, of chronic rheumatism may be summed up in a few words: arsenic in appropriate cases, iodide in others, and salicylate of soda in the periods of exacerbation.

The external treatment is much more complex. It comprises, first, all the local means which I enumerated *à propos* of acute rheumatism, as well as most of the artificial baths which I have described; but to these means we must join others which have a very marked action in chronic rheumatism, in the first rank of which we place electricity. Whether the rheumatism has exerted its action primitively on the muscular tendons, or whether it has affected first the bony or fibrous parts of the articulation, it seems to be demonstrated that the deformities of chronic rheumatism, which are so numerous, depend on the retraction of certain muscular groups. There are even cases in which rheumatism very speedily causes atrophy of the muscles, producing in this way considerable loss of power in the limbs, and without any apparent deformity.

It is easy to understand the utility of electro-therapeutics in such cases. If you employ this agent, you must use galvanic currents, which have an influence on nutrition in general, and that of the muscles in particular. Erb, Remak, Onimus, Jules, Cheron, etc., have long insisted on the remarkable action of these currents in causing the articular deformities gradually to disappear, and, for my part, I have obtained successful results of this kind which are really marvellous. You should then always have recourse to constant currents when the phenomena of muscular irritation have disappeared. If you resort to this powerful therapeutic agent in time, you will be able to restore movement, and the use of the affected joints, and to attain this you should, as Dally has recommended, associate massage with the employment of electricity. To these powerful means of treatment in chronic rheumatism, the methodical employ of mineral waters should be added.[1]

The necessity of tonic treatment should influence you in advising the dietary of these rheumatic patients, and all your efforts should be directed toward augmenting their nutrition. You should order a substantial nourishment such as red meats, generous wines, for, contrary to what takes place in gout, the uric acid diathesis does not exist in chronic deforming rheumatism. Urge the need of out-door air and exercise, to combat the muscular atrophy of the members. You should especially insist upon the necessity of avoiding damp cold. The impression of cold is one of the most active causes in the production of rheumatism, whether it acts directly on the nervous system, as Heyman thinks, or in modifying the functions of the skin, permitting, as Hueter and Klebs believe, the introduction of organized phlogistic agents in the blood. This effect of cold is admitted by all observers, and is especially seen at periods of life when the body is most likely to be exposed to sudden changes in temperature; you must then avoid these variations of temperature, and their results, which often depend on the rapid evaporation o perspiration, by making your patient wear flannel and shun exposure to the winds, and particularly to the west wind.

You should have a surveillance also of the dwellings of your patients, providing as far as possible that the conditions of the habitation shall be of a sanitary kind, with apartments airy and free from moisture and the moulds which moisture generates,—cryptogamic productions which Moses in Leviticus characterizes as the plague in the walls of the houses (Leviticus, 14, 36, etc.). Therefore, whenever your patient is well enough off to afford it, you should insist on his avoiding the autumn rains, by going early to the winter stations. In a word, do not forget, gentlemen, that rheumatic arthritis, which has been called "poor man's gout," affects only those individuals whose nutrition is impoverished and enfeebled, and that all your efforts should be directed toward restoring the forces of the organism and stimulating the nutritive exchanges. This it is that explains how the treatment by arsenic and the iodide of potassium, the tonic medication under all its forms, is of use in these cases without being able always absolutely to oppose the invading march of the disease, which is generally fatal in the end.

Gout presents quite different indications of treatment,

[[1] Walton (Mineral Springs of the United States and Canada) very properly divides rheumatics into two classes, those of the lymphatic temperament, and those of the nervous. In the former, waters rich in the sulphurets have seemed to produce the best results, and baths of a high temperature are indicated; in the nervous temperament, however, waters containing but a small proportion of these constituents and of moderate heat, like the Virginia Hot Springs, are preferable. The hot sulphur springs have been much recommended in the treatment of chronic deforming rheumatism; these benefit more by their elevated temperature than by any saline or sulphurous constituents. We have a great variety of such springs in this country. We may instance the so-called Hot Springs, in Garland County, Arkansas, whose waters resemble those of Gastein, in Austria, and Pfäffers, in Switzerland; the Calistoga Hot Springs in Napa County, California; the California Geysers; the Santa Barbara Hot Sulphur Springs in California; the Middle Park Hot Sulphur Springs in Colorado; the "Warm Springs," in Madison County, North Carolina; springs of the same name in Meriwether County, Georgia; the Lebanon Springs in Columbia County, New York; the Hot Springs of Bath County, Virginia; and, lastly, the Salt Lake Hot Springs in Utah. The hot springs of Virginia and Arkansas are very fashionable places of resort; to the treatment by baths are conjoined massage and douches.]

and the adage that to contrary affections contrary remedies are indicated, is especially applicable to these two diseases, gout and chronic rheumatism, which, born of a common parent, are distinct diseases from a clinical as well as from a therapeutical standpoint. While we can observe at our hospital chronic rheumatism under all its forms (and grave cases are not wanting), we seldom or never meet with gout; or at least but one kind of gout is common in our wards, that from lead-poisoning, and I have already shown you, in my service, curious examples of this affection, whose description we owe to Charcot, Garrod, Ollivier, and Lancereaux. But in your private practice it will not be so, and you will there meet with a considerable number of gouty patients, although their number tends to become less every day. This diminution results chiefly from the fact that the number of idle men tends also to decrease and that the struggle for existence demands of almost everybody a certain amount of daily labor.

Without entering here into the details of the different theories that have been put forth as to the pathogeny of gout, it may be said that the humoral theory of the disease has always counted the most adherents. According to Sydenham, gout is the result of a peccant humor, a morbific matter, which nature endeavors to get rid of. Substitute for these words *peccant humor*, *morbific matter*, uric acid and urate of soda, and you will have the theory to-day admitted by physicians generally; and notwithstanding the reserves recently formulated by Bouchard, it seems to be proved that every attack of gout is due to an excess of urate of soda. But it is not sufficient to know that this excess of uric acid is the first cause of gout, we need chiefly to know the reason of this accumulation.

Since the time when, in 1793, ninety years ago, Forbes Murray affirmed the starting-point of gouty symptoms to be the presence of uric acid in the humors of the economy, many hypotheses have been advanced to explain the first cause of this uric diathesis. Residuum of the imperfect combustion of albuminous matters, cinders, as it were, of the economy, uric acid is the result of the incomplete nutritive operations of the human system. Urea, which is a more perfect product of organic combustion, has an origin which varies according to the ideas advanced as to its production; thus it is that Provost and Dumas regard this substance as the result of an oxidizing process in the capillaries, while Robin and Bouchardat consider it as a product of disassimilation, and, on the other hand, Brouardel, Charcot, and Murchison, think that the liver chiefly is concerned in its elaboration.

Whatever theory one may adopt, the main fact that you should bear in mind, is that there will be increase or diminution in the production of uric acid according as nutrition is perfect or imperfect. As for the accumulation of urea and uric acid, it may result from two causes which shed light on the pathogeny of gout. In the one case the uric diathesis has for its origin excess of production; in the other, the production remains the same, but there are troubles in the function of the kidneys which prevent the elimination of uric acid, and it is these two great factors which we shall have to study when we examine the prophylactic treatment of gout.

The medicines recommended for gout are very numerous; their number was considerable in the time of Lucian, if we may judge by his dialogue on gout.[1]

In order to give system to the exposition of this subject, I shall consider it under several heads, and examine successively the treatment of gouty paroxysms, the treatment of gout apart from the paroxysms, and finally the hygienic and thermal treatment which occupies the first place among the prophylactic means.

Gout, as you know, manifests itself in paroxysms, and without giving you here a symptomatic description of these attacks, which have never been more admirably portrayed than by Sydenham in his treatise on gout, I will mention especially the dyspeptic prodromes and the pains in the joints which acute gout determines.

The perturbation of the functions of the stomach plays a considerable part in the attacks of gout, and this is so generally known that gout has even been attributed to functional derangements of the stomach. I have already spoken of these gouty dyspepsias in those lectures which treat of diseases of the stomach.

As for the pains in the joints, these affect, as you well know, in the great majority of cases, the metatarso-phalangeal articulation of the great toe, and cause horrible suffering. The skin over the inflamed joint takes on a violaceous tint, and has a shining aspect which enables you to diagnosticate a fit of gout at first sight. You know to-day that these joint phenomena are due to the presence in the interior of the articulation of crystals of urate of soda, and you are aware that the least disturbance of the limb will exasperate the pain; you also know that the urate of soda, the morbific agent of the gout, may cause certain saline deposits, known as *tophus*, around the joints.

But there is a disputed question which we must now meet, viz., whether it is best to treat at all a fit of gout. Moved by the grave accidents which may occur in the course of a gouty paroxysm, and especially struck by the disappearance of the gouty symptoms when visceral complications arise, the older physicians assigned an important part to metastasis in the production of these phenomena of visceral gout. Adopting in their entirety the ideas of Sydenham, they thought that it was dangerous to interfere in the gouty paroxysm for the reason that the attack was the result of a tendency on the part of the economy to throw out peccant humors; if this elimination did not take place, they thought that this morbific matter, attacking the lungs, heart, and brain, would produce very serious complications referred by them to retrocession.

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[1] "What mortal on earth does not know that I am gout, invincible sovereign of all pains? . . . Pan, with his remedies, cannot triumph over me, though he be physician to the gods in Heaven, nor can Esculapius, son of Phœbus. The human race has in vain invented a thousand artifices against me. One, bruises plantain; another, celery; this one, lettuce leaves or wild parslane; that one, leeks, nettles, and comfrey; others prepare ligusticum, wild parsnep, peach leaves, henbane, poppies, boiled onions, pomegranate bark, flea-wort, hellebore, fenugreek infused in wine, frog-spawn, cypress gum, brine, sheep-dung and other excrements. Who does not know that there is no insect or animal so vile as not to have entered into the composition of some of these specifics? What minerals have men not tried, or what vegetable production? What excretion too abominable for medicinal use? . . . But I, who cause the whole earth to weep, only irritate myself the more against those who employ these means, and who attempt to drive me away. Those, however, who make no resistance I often treat with kind and benevolent consideration."—*From Lucian's Dialogue on Gout.*

Thanks to the progress of pathological anatomy, we have an explanation more true, more scientific, and more exact of this metastasis, and we know to-day that it is occasioned by uræmia. In fact, the kidney plays an important *rôle* in the symptomatology of gout. Under the influence of the constant irritation which is determined by the passage of urine loaded with uric acid, the renal canaliculi become inflamed or obliterated in part, and then supervenes either interstitial nephritis or fatty metamorphosis of the kidneys, and it is to this aggregate of lesions that the name of gouty kidney has been given. These lesions, by impeding the functions of the renal filter, entail consequences more or less grave, some pertaining to uræmia, others having a marked influence on therapeutics, and explain why certain medicines administered to the gouty, have even been attended with fatal results.

We find here also an application of a fact to which I have called your attention before in the course of these lectures. It is that when elimination by the kidneys is at fault, you obtain not the medicinal effect desired, but the toxic action of the substance which you employ. This, too, explains why our forefathers were afraid of active interference in gout; it also shows the necessity of great prudence in the treatment of this disease, and careful daily examination of the urine, and this, not only with reference to the albumen which it may contain, but also to the extractive matters in that excretion. These reserves being made, I believe it to be the duty of the physician actively to treat attacks of gout, discarding altogether the precept of Cullen, who summed up in the two words, "patience and flannel," the whole treatment of gout.

A great number of medicaments have been proposed for acute gout,—antiphlogistics, purgatives, sudorifics, specifics, etc. Bloodletting, whether general or local, once much in usage, as, for instance, in the celebrated remedy of Paulmier, which consisted in the application of twenty or thirty leeches around the joints, is completely abandoned. Nevertheless, Garrod thinks that in certain exceptional circumstances one may have recourse to local emissions of blood with advantage, and Gairdner is of the same opinion. However, it is not easy to see what good this local bleeding can have in acute paroxysms, being powerless to modify the uric diathesis—the cause of the affection.

As for sudorifics and purgatives in this disease, their value has long been discussed. Among the first, guaiacum deserves a place, once of great reputation as a specific in gout, and Ackermann, Metzger, Weismantel, have vaunted its anti-arthritic properties. The essence of guaiac serves as the basis of the celebrated remedy of Caraibes, the anti-gouty syrup of Boubee, and the syrup of Vicq d'Azyr and of Gall.[1]

To-day guaiacum is almost completely abandoned, and if it were desirable to resort to sudorifics it would be better to employ jaborandi and pilocarpine. But although urea does to some extent undergo elimination by perspiration, this elimination is too insignificant to afford a real relief to the patient, and while recognizing that it is a good thing to promote the functions of the skin during the fit of gout, I do not think that we can count much on sudorifics to the exclusion of other remedies.

It is the same with purgatives, to which Scudamore had attributed curative virtues in the attack of gout, while Sydenham, on the contrary, discarded them altogether. Purgatives have no other effect during a fit of gout than to keep the bowels open, and this is generally necessary by reason of the constipation which is habitual in such cases. The purgatives to which you should always have recourse are chiefly mineral waters, such as those of Hunyadi Janos, Püllna, Carlsbad, the American Hathorn water, etc., which should be given only in sufficient quantity to maintain regular action of the intestines.

I pass rapidly over mercurial treatment, vaunted by Musgrave and Hamilton; antimonials which serve as a basis for Quarin's cure (of precipitated antimony and phosphate of lime), and James's powder (of precipitated antimony and phosphate of lime), to come to medicaments which have a real specific action in gout. I refer to sulphate of quinine, to colchicum, and to salicylate of soda.

Influenced by the intermittency which characterizes the gouty paroxysm, quinine has been recommended in its treatment, and it is doubtless true that this medicine mitigates, to some extent, the intensity of the attack. Quinine may be given with other medicines, and especially with colchicum. Colchicum is the veritable specific in gout, and Fievée has gone so far as to affirm that colchicum is to gout what quinine is to fever and ague. Nevertheless, colchicum is absolutely an empirical medicine, for if clinical experience every day witnesses its good effects in gout, experimental physiology has little to say in explanation of those effects.

Colchicum is a bulbous plant with violaceous flowers, which flourishes in abundance in our meadows, and which our herds carefully shun, for it constitutes for them a poison of great activity. The bulb, the seeds, and the flowers are used in medicine, being made into tinctures, alcoholic extracts, and wines, which are the modes of administration most often employed. As the different parts of the plant do not contain the same quantity of active principle, it is necessary to specify in your prescriptions the part of the plant which you desire to administer. Although the tincture of the flowers, known under the name of Hahnemannian tincture, has

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[1] The famous remedy of Caraibes is principally composed of the alcoholic tincture of guaiacum. The anti-gouty syrup of Boubee has this formula:

R.—Sarsaparilla root, ...	40 parts.
Resin of guaiacum, ...	15 "
Jalap, ...	9 "
Mustard,.	9 "

Mix.

Boil in 300 parts of water for two hours, and add sugar enough to form a syrup.

The anti-arthritic pills of Vicq d'Azyr have also guaiacum for a basis; the formula is as follows:

R.—Castile soap, ...	4 parts.
Ox gall, ...	2 "

Mix and incorporate guaiacum resin, calomel, of each 1 part.

M.—Make into pills each weighing 20 centigrammes. Dose, one or two morning and evening.

The pills of Gall contain, besides extract of guaiac, a little antimony and opium.

been vaunted by several authorities, and in particular by Debout, it is generally preparations of the seeds which you should order, and you can administer the tincture and the fluid extract in the dose of ten drops to a teaspoonful daily, watching carefully the result of your doses, for the therapeutical effect varies according to individuals. Some can bear large doses without inconvenience, while others experience toxic results from very small doses. These troubles consist, as you know, in diarrhœa and vomiting; these effects you should avoid. You ought then to order the tincture of colchicum in doses consisting of a certain number of drops, remembering that twenty drops weigh thirty-nine centigrammes. You can give twenty drops morning and evening without any inconvenience, and increase the dose according to the needs.

But you will ask, since the active principle is unequally distributed in the plant, why not give this active principle itself? Here we find ourselves in the same embarrassment as in the case of digitalis, and just as there have been found several digitalines, so there have been found several active principles in colchicum. Hess and Geiger, for instance, have extracted from colchicum *colchicine*, Oberlin, *colchiceine*, Hubler, still another alkaloid, so that the question of the veritable active principle of colchicum is still undecided. Therefore, in the midst of this uncertainty I think it is better, as in the case of digitalis, to employ the plant itself, indicating, as before said, the tincture of the seeds, or root, or whatever other preparation you wish to employ. The tincture of colchicum may be associated with other substances, and it is this combination which characterizes the majority of the popular remedies for gout, such as Laville's tincture (liqueur Laville), the wine of Anduran, the tincture of Cocheux, the pills of Lartigue, and many others, which I pass over in silence. If you do not desire to recommend any of the proprietary nostrums, you can prescribe combinations just as useful, such as the following, which is a good formula:

℞.—Trincture of colchicum,
Alcoholic tincture of aconite root,
Compound tincture of jalap,
Tincture of quinine, . . . āā℥ss.—M.

Sig.—Thirty drops, morning, noon, and night, in a wineglassful of some bitter potion, such as infusion of *fraxinus excelsior*.

The European ash has had a great reputation in the treatment of gout, and Pouget and Peyraud consider it as a genuine specific. Moreover, the number of indigenous plants regarded as antiarthritic is considerable, and to give you an idea how numerous they are, you have only to refer to the electuary once vaunted by Sydenham (this electuary consists of twenty-nine articles). Among these plants I will mention only one—aconite, whose administration mitigates the pains from which gouty patients suffer: therefore, I think that it is always well to combine aconite with your colchicum. Alkalies have little curative action in acute attacks of gout, and constitute only an adjuvant medication. During my trials with propylamine and trimethylamine, I obtained in certain patients (and in particular an illustrious marshal of France) disappearance of the gouty attack under the influence of these medicaments; but now, these ammoniacal compounds deserve to give place to a medicine much more energetic and certain, viz., salicylate of soda.

Salicylate of soda has an evident curative influence in gouty paroxysms, and it owes its action to several causes: first, because it favors elimination of urea and uric acid (you know, in fact, that salicylic acid is eliminated in the urine under the form of *salicyluric* acid); next, because this medicament is a powerful analgesic of the articular pains; and, finally, because it has an antipyretic action similar to that of quinine. Therefore, German Sée has rightly insisted on the advantages which may be derived from salicylate of soda in the treatment of attacks of gout, and here the rules of administration are the same as for acute articular rheumatism. But it is necessary in these cases to pay particular attention to the state of the kidneys, for as I have already told you, the impermeability of the renal organs may render the administration of salicylates dangerous, and this it is that explains the divergence of opinions which have been put forth respecting the advantages and inconveniences of this medication in gout.

The external treatment of gout is a matter of much less importance than the internal medication. Many local means have been recommended in the acute paroxysms, from ointments and pomades in current use, to more complex formulas, and even to *horse-chestnut oil;* from applications as hot as can be borne, to the use of ice around the joint;—all have been counselled in these arthritic inflammations. I believe, and in this I am supported by Garrod, that all these applications are useless, and even dangerous. It suffices to consider the state of these joints, the fiery redness of the skin around them, the pain of which they are the seat, to convince one that frictions of an irritant nature may inflict grave disorders on the cutaneous surface thus inflamed. Therefore, in view of the trifling benefit of these local applications on the one hand, and their danger on the other, I advise you to discard all these pomades and ointments, and to surround the foot with a layer of finely carded cotton, which will give immobility to the affected joints and protect them from the air.

To sum up then, when you are called to treat an attack of gout, you will first assure yourself of the integrity of the kidneys, then you will administer salicylate of soda in doses of from one to one and a half grammes, or, if you prefer, the tincture of colchicum seeds combined with quinine or strong tincture of aconite root. If, on the contrary the kidneys are damaged, or if the heart seems to be degenerated, you will have to content yourselves with giving alkaline diluents and keeping the bowels open with saline purgatives; besides enswathing the affected member with wadding around which is placed oiled silk.

But it is not enough to combat the attack of gout, something must be done to prevent its return, and here we have many means at our command, both pharmaceutical and hygienic. Whatever theories may be admitted in explanation of uræmia, it is against this condition that all our efforts should be directed; here then is the place for the alkaline medication under all its forms. I will be more brief in the exposition of this part of my subject, because I have already, in a former lecture, spoken to you of the treatment of the uric acid diathesis.

All the alkalies may be employed, soda as well as potassa, but there is one that seems to me better than all the others, viz., "lithia," which Garrod recommends. I need hardly tell you that the dose of carbonate of lithia is seven or eight grains (fifty centigrammes) given at meal-time in carbonic acid water; the effervescent salts of lithia are good preparations. Benzoic acid and the benzoates have also been highly extolled, and combinations of benzoic acid with alkalies are in use, such as the double benzoate of soda and lithia, which is an excellent preparation.

By the side of the alkaline medication, certain tonics and stomachics deserve a place, being much in repute. These are principally bitter preparations furnished by our indigenous flora, constituting antiarthritic remedies more or less complex, such as (to name those most known) the "electuary of Sydenham" which I have before mentioned, and the famous remedy of the "Duke of Portland." These nostrums, once the subject of much discussion, have now happily passed into oblivion, and given place to quassia and cinchona bark, which are of some little efficacy in atonic gout.

As you perceive, the pharmaceutical treatment of gout in the interval of the attacks is limited to the administration of alkalies in all their forms and bitters and other tonics. Add to these means the thermal treatment, which plays a considerable part in the therapeutics of this disease. Three stations among all those which have been considered as suitable for podagrous patients ought to attract your attention, viz., Vichy, in France; Wiesbad, in Germany; Carlsbad, in Bohemia.

There has been much discussion concerning the mode of action, the advantages and disadvantages, of Vichy water in gout. To-day this question seems to me decided, and I have already given expression to my views on this subject under the head of "renal lithiasis." It is not by neutralizing the excess of uric acid that these alkaline waters act, it is by their influence on the general nutrition, whose functions they regulate. But I am well aware that it will not do to exceed certain quantities, and that the treatment by alkaline mineral waters is not altogether unattended with evil. You should then send to Vichy your strong and plethoric patients whose nutritive functions are below par, and you should proscribe these waters to weakly patients whose attacks are but little accentuated—in a word, who have the symptoms of what has been described under the name of atonic gout and gouty cachexia.

The Carlsbad waters act like those of Vichy, always with this difference, that they are purgative. They suit admirably gouty patients with hepatic congestion and gastro-intestinal troubles, characterized by constipation or irritation of the stomach and bowels, provoked by excesses of the table. Weisbad belongs to the sodic chloride waters, and is applicable rather to the arthritic diathesis than to gout itself. The Aix la Chapelle waters, as well as those of Ems and Royat, which are all sodic chloride waters, act also by the lithia which they contain, and combat rather the multiple manifestations of the arthritic diathesis than the excess of uric acid itself. These are very useful spas, to which you would do well to refer a large part of your chronic rheumatic patients.

Hygiene plays a considerable part in the prophylactic treatment of gout. Everybody is agreed that gout, aside from the laws of heredity, is the consequence of defective hygienic conditions, the uric diathesis, which is its starting-point, being an evidence that the azotized materials introduced into the economy there undergo an incomplete combustion. We have, then, two great factors in the pathogeny of gout: too abundant alimentation, too little muscular exercise. Gout is a disease of the rich, and this is a fact on which have insisted all writers from the most remote antiquity. You should, then, have a care over the alimentation of your gouty patients and proportion it to their muscular work. You should look after not only their solid food but also their daily beverages, alcoholic excesses having an important influence in the etiology of gout. In fact for ages, attention has been called to the influence of spirituous liquors on the development of this disease. Wines that contain too much alcohol, as well as strong beers, should be interdicted altogether; although Garrod has condemned cider, I do not believe that this beverage can give rise to gout; I think there may be cases in which it may be beneficial.

But if the dietary of the gouty patient needs to be carefully regulated, it is just as necessary to prescribe suitable muscular exercise of all kinds; gymnastics, fencing, pedestrianism, all should be employed, and as our immortal fabulist has said:

Goutte bien tracassée,
Est, dit on á deum pansée.[1]

ORIGINAL ARTICLES.

FURTHER EXPERIMENTS WITH THE MICROCOCCUS OF GONORRHŒAL PUS—"GONOCOCCUS" OF NEISSER.

By GEORGE M. STERNBERG, M.D.,
MAJOR AND SURGEON, U. S. A.

IN a paper published in THE MEDICAL NEWS in January, 1882 (Nos. 3 and 4, vol. xlii.), the writer gave an account of a series of experiments undertaken for the purpose of determining the etiological import of the micrococcus which his own observations, and those of numerous other observers, had demonstrated to be constantly present in the pus of specific urethritis. The uniform presence of this micrococcus in specific purulent discharges from the urethra or conjunctival sac is now well established, while the recorded observations indicate that it is not to be found in non-specific discharges from mucous surfaces. The presumption is, therefore, very strongly in favor of the view that the micro-organism in question is connected with the infective virulence of these discharges, although, as repeatedly pointed out by the present writer, it does not possess distinctive morphological characters, as claimed by Neisser and others. Similar groups of micrococci have been observed by Ogsten in pus from acute abscesses, and I am informed by my friend, Dr. Wm. Councilman, of Baltimore, a very competent pathologist, who has given much attention to the study of microörganisms, that in post-mortem pustules upon his own hands he has repeatedly seen the pus cells invaded by micrococci, arranged in pairs and in groups of four, which appear to be identical morphologically with those found in gonorrhœal pus. In my recent work,[1] in the article "Gonorrhœa," I give a photograph from nature[2] of micrococci, which, so far as I can see, resemble precisely the "gonococci" of Neisser, and which are from a culture inoculated with normal human saliva, which, as is well known, contains at all times a very varied microscopic flora.

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[1] Which may be thus rendered, "Gout well exercised is half cured."

I again call attention to this morphological resemblance, not with a view to claiming specific identity upon this ground, but in order to show that the claim which has been made that the "gonococcus" of Neisser may be distinguished from all other micrococci by its morphological characters is not well founded. I have repeatedly insisted upon the fact that these lowly plants often cannot be distinguished one from another by their form alone, and that specific differences may exist, as shown by a constant difference in color—as in the chromogenes, or in physiological reactions, as in the case of pathogenic micrococci, when the most skilful microscopist can distinguish no differences in form, dimensions, or mode of grouping, which would serve to distinguish one species from the other.

But it is not essential that the "gonococcus" of Neisser should be shown to possess distinguishing morphological characters in order to establish its claim to be considered the cause of the infective virulence of gonorrhœal pus. If it can be shown that "pure cultures" of this micrococcus introduced into healthy urethræ produce a virulent inflammation identical with that which results from impure contact or from experimental inoculation with the discharges of specific urethritis, its etiological import will have been established. In this case morphological identity with species destitute of this special pathogenic power will simply be an interesting fact, and a well-defined specific distinction—physiological—will have been established.

The writer has no special predilection for the study of this disease, and if circumstances had made it possible for him to pursue his researches relating to the etiology of yellow fever and of malarial fevers, might never have found time to cultivate an acquaintance with the "gonococcus" of Neisser. The question, however, as to the relation of this micrococcus to the infective virulence of the fluid in which it is present has as important a bearing upon the truth of the germ theory of disease, as a broad generalization, as has that which relates to the etiological import of Koch's cholera bacillus, or of any other supposed pathogenic organism. For, as stated in my first paper, "It is evident that if a single infectious disease is shown to be independent of all microörganisms, the generalization will be impossible" (*i. e.*, that infectious diseases are parasitic-germ diseases), "and the etiology of each specific disease of this class must be worked out separately."

The uniform presence of the micrococcus in question in the pus of gonorrhœa, and the absence of any other microörganism demonstrable by the highest powers of the microscope, led the writer, in advance of his inoculation-experiments, to anticipate with a great deal of confidence that these would give a positive result, and that the essential relation of this micrococcus to the infective virulence of the discharges of blennorrhagia would be established. If a specific urethritis had been induced in one or more of the hospital patients inoculated by Dr. Hirschfelder with pure cultures of the micrococcus which I placed in his hands (in June, 1882), the evidence would have been accepted by me as satisfactory, and the claim would have been made that the micrococcus in question is the essential etiological factor in the production of specific—infectious—urethral discharges. But having obtained a negative result in these, and in two subsequent inoculation-experiments, one of which was made in my own urethra, the conclusion was reached that infective virulence is not due to the presence of this micrococcus. Since these experiments were published, Bockhart has reported (September, 1882) a successful inoculation in the case of a paralytic patient in hospital, who is said to have had a typical gonorrhœa as a result of the introduction of the fourth culture of Neisser's "gonococci" into his urethra. This experiment has been accepted by several authors as sufficient to establish the essential etiological rôle of the micrococcus. The writer has given his reasons for not accepting this case as conclusive in his recent work already referred to (p. 311).

In my opinion the cultures should be carried further than the *fourth*, especially when made upon a solid substratum, in order to insure the exclusion of the original material, or of micrococci still infected with it. But even if this criticism were not well founded, it is evident that if the fourth culture produces a virulent inflammation and the tenth or twentieth culture is innocuous, we must admit that the pathogenic power of the micrococcus in the first instance does not depend upon constant and inherent physiological characters, but upon special conditions relating to its environment, or that of its immediate progenitors. In other words, that we have here an example of a microörganism which may acquire or lose specific pathogenic power, as a result of circumstances relating to its surroundings. The writer is very ready to admit this possibility, and to confess that he claimed too much for his negative results in inoculations with pure cultures, in his first paper, viz., that infective virulence is not due to the presence of this microörganism.

The experiments of Bockhart and the recently published observations of Welander,[1] considered in connection with the evidence relating to other infectious diseases, make it appear extremely probable that infective virulence does depend upon the presence of this micrococcus, notwithstanding the fact that pure cultures have no effect when introduced into the urethra. It does not follow from our admission that the infectious properties of gonorrhœal pus may depend upon the presence of this microörganism, that it has no other function than to produce a virulent discharge from the urethra, vagina, or conjunctival sac of infected individuals. There is another view which seems to the writer to be more in consonance with the observed facts, viz., that this micrococcus is a widely distributed and usually harmless organism which may acquire specific pathogenic power as a result of special conditions relating to its environment, and which again loses this power when removed from the influence of these special conditions.

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[1] Bacteria, Wm. Wood & Co.: New York, 1884.

[2] Fig. 1, Plate ix., of first edition; Fig. 6, Plate iv., of second edition, now in press.

[1] Nord. Med. Ark., Stockholm, 1884, xvi., No. 2.

That this specific pathogenic power is not a permanent physiological character of the species is shown by the negative results from inoculations with pure cultures reported by the writer in his first paper, and still more conclusively by the following recent experiments.

On the 14th of August a culture solution (beef-peptone solution) enclosed in a hermetically sealed glass flask, was, at my request, inoculated with a drop of gonorrhœal pus from the urethra of a patient at the City Dispensary, by my friend, Dr. N. G. Keirle. Demonstrator of Pathology in the College of Physicians and Surgeons of this city.

The little flask with its sterilized contents was prepared as directed in my recent work (*Bacteria*, p. 177). It was at once placed in the culture-oven, kept constantly at a temperature of 38° C., and the following morning the fluid was pervaded throughout by a micrococcus identical in appearance with that which I have repeatedly obtained in the same way from the same source. A second tube was inoculated from the same case the following day, and the same micrococcus had full possession of the culture-medium after the tube had remained for twenty-four hours in the oven. From each of these tubes a series of cultures was made, and in each successive culture the same micrococcus, and no other microörganism, pervaded the culture-medium after twenty-four hours' incubation. Surface-cultures were also started from the pure stock in these culture-flasks. For these the Japanese isinglass — Agar-agar — and beef-peptone solution were used. Upon the surface of this medium the micrococcus extended slowly from the inoculated point, forming a circular white patch, which at the end of two or three days attained a diameter of about one-half an inch. In these surface-cultures the growth of the micrococcus was quite sluggish as compared with the fluid cultures, and came to a standstill when the culture was removed from the oven and allowed to stand under a bell-glass in the laboratory for a week or more. These cultures were made with a view to making a final and decisive test as to the pathogenic power of this micrococcus; and my friend Dr. Keirle had informed me that several gentlemen connected with the City Dispensary had consented to furnish healthy urethras for the experiment.

Accordingly I proceeded to the City Dispensary on Saturday, August 23, at an hour agreed upon, taking with me the 9th fluid culture, and surface-culture No. 9, both fresh from the oven and containing the micrococcus in active multiplication—the direct progeny of the "gonococci" in the drop of pus used nine days previously to inoculate culture No. 1. I was disappointed to find that the courage of some of the gentlemen who had consented to the experiment at first had failed them at the last moment. I had informed Dr. Keirle that I thought it best to make the experiment upon unmarried men to prevent the possibility of serious secondary consequences in case of a result different from that obtained in my San Francisco experiments. But the unmarried men failed me at the last moment with the exception of one young gentleman, Mr. W. A. Wegefarth, of Baltimore, a medical student. Contrary to my expectation, Dr. Keirle himself had determined to test the "gonococcus" in his own urethra, and with this example before me I could not do less than join in the experiment, although I confess that I did so with some hesitation, notwithstanding the negative results which I had previously obtained in a similar experiment.

Having determined to carry out the experiment, both Dr. Keirle and myself decided that it should be thoroughly well done. Three little cylinders of cotton were saturated with the fluid culture and one of these was introduced well into the urethra of each of the subjects of the experiment: Mr. Wegefarth and myself left these pledgets of cotton *in situ* for more than two hours. But as the surface-culture had not been used, Dr. Keirle at the end of twenty minutes removed the first pledget and introduced a second which had been thoroughly smeared with the surface-culture. This was left in position for more than two hours, and both Dr. Keirle and myself refrained from passing urine for several hours, in order to give the "gonococci" a fair chance to effect a lodgement.

On the 27th of August, having experienced no effect from the first experiment, I introduced surface-culture No. 11 into my urethra in the same way, leaving the pledget of cotton in position fully two hours. The result was entirely negative, and the other gentlemen assure me that they experienced no ill-effect whatever from the experiment. On the 29th of August I made a microscopical examination of the organisms present at the extremity of my urethra, and found groups of micrococci attached to some of the epithelium cells which resembled precisely those in my culture solutions. These micrococci were less numerous, however, than the bacteria (*B. termo?*) which habitually infest the meatus urinarius, and which may be seen in the photo-micrograph illustrating my paper on "Bacteria in Healthy Individuals."[1]

Those who desire to study for themselves the bacterial flora of this and other mucous surfaces, will find it a very simple matter if they adopt the following method:

A clean glass cover is gently applied to the mucous membrane of the meatus, and the stain of mucus upon it is allowed to dry without heat. A drop of a watery solution of one of the aniline dyes is then placed upon the cover, and after two or three minutes this is washed off in a gentle stream of water. The cover is then mounted over a circle of white zinc cement, or in balsam. Upon microscopical examination numerous epithelium cells will be seen with their nuclei deeply stained, and with a power of 500 diameters it will be seen that many of them are invaded by innumerable microörganisms, some of which are spherical and others oval or rod-shaped.

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[1] Studies from the Biological Lab. Johns Hopkins Univ. Vol. ii., Plate xiii., Fig. 4.

It would be well for every surgeon to make this demonstration for himself. For having done so, he can scarcely fail to ask himself the question, Are these septic organisms? And if so, is there not danger that in introducing sounds, etc., I may carry these living ferments into the bladder, and may they not in that case induce injurious fermentative changes in the contents of this viscus? Or in dilating a stricture, is there not danger that I may rupture the mucous membrane and introduce into this open wound septic organisms carried upon the point of my sound from the extremity of the urethra? And is it not possible that the serious results which sometimes follow simple operations upon the urethra are due to such accidental inoculation during surgical manipulations?

POSTSCRIPT.—Since writing the above, I have had an opportunity of verifying the fact that micrococci are sometimes found in the pus of acute abscesses which are morphologically identical with those found in gonorrhœal pus. On the 16th of the present month a recruit at the cavalry recruiting rendezvous in this city came to me with a painful swelling over the instep which had developed within two or three days. Upon pressure I discovered fluctuation, and determined to take advantage of the opportunity to start a fresh culture of the micrococcus which the testimony of Ogsten and others shows is quite uniformly found in pus from an acute abscess.

The surface was made as clean as possible before making an incision by thoroughly washing it with strong alcohol. The pus which escaped after making the incision was quite thick and amounted to about half a fluid-drachm. A little of this was drawn into each of three culture-flasks at the moment of its escape from the wound—the flasks were of the pattern which I habitually use and have repeatedly described—and a small quantity was collected in a capillary tube for microscopic examination. This was spread upon thin glass covers and stained with methyl-violet. It was found to contain micrococci in pairs and in groups of four, but no chains were seen. The micrococci were not numerous, but under the $\frac{1}{18}$-inch objective of Zeiss they were unmistakable, and several characteristic groups of four, arranged in the form of a square, were seen. They were also seen in the interior of a pus cell, an observation which was verified by Dr. Councilman.

The culture-flasks were placed in the oven (kept constantly at 38° C.) and the following morning the culture-medium (beef-peptone solution) was, in each case, pervaded by micrococci, arranged in pairs, in groups of four, in short chains of three or four, and in irregular groups and masses. No other microorganism was present in the culture-solutions.

So far as the form and grouping of these micrococci are concerned, they do not differ in any respect from the micrococci which I have repeatedly obtained by inoculating culture-fluids in the same way with a little gonorrhœal pus at the moment of its escape from the meatus urinarius. A comparison was made with an amplification of 2000 diameters (Zeiss's $\frac{1}{18}$-inch objective and high eye-piece), pure cultures from each source being used for this purpose. A slight difference in size was perceptible with this high power, the micrococcus from the acute abscess being a little larger than the other. I do not, however, attach importance to this slight difference in size as a specific distinction, for the individual cocci in the same culture vary considerably in their dimensions, and I have repeatedly noticed that different cultures from the same source may vary somewhat in this particular. These unicellular plants do not differ in this respect from plants higher in the scale. My observations lead me to think that they are subject to the modifying influence of changes in their environment as well as the higher plants, which we know may be dwarfed by deficient nutriment, or may acquire an unusual development as a result of artificial selection and cultivation. And I believe that the laws of heredity in conjunction with the various modifying influences to which these minute plants are subject in different situations must tend to the establishment of varieties and finally of species. But I do not find that the "gonococcus" of Neisser possesses any morphological peculiarities by which it can be distinguished from micrococci from other sources.

CASE OF HÆMATURIA OCCURRING IN THE COURSE OF TYPHOID FEVER.

BY HENRY M. FISHER M.D.,
PHYSICIAN TO THE EPISCOPAL HOSPITAL, PHILADELPHIA.

F. M., male, æt 28, single, born in Philadelphia, was admitted to the Episcopal Hospital June 28, 1884. About five weeks before admission, patient slept out of doors all night; three weeks later had chills for two or three successive days, accompanied by severe headache. Since then he has been the greater part of the time on his back, and for nearly a week has had complete prostration of strength. Diarrhœa has, from the first, been a prominent symptom.

July 2.—His bladder was found to be much distended, reaching to within an inch and a half of the umbilicus. For the last 36 hours it was observed that he passed water only in driblets. He was catheterized and 59 ounces of turbid, high-colored urine were withdrawn.

11th.—Patient succeeded to-day in emptying his bladder without assistance. Temperature has at no time been very high, but his pulse has been uniformly weak. The urine voided was of a dusky-red color, highly albuminous, and evidently contained much blood. A microscopical examination was, however, unfortunately not made. For three days past there has been extreme tenderness over the abdomen, with much tympanitic distention. Ordered pil. opii, gr. j every hour, and poultices. Diarrhœa persists. In addition to the opium by the mouth he was ordered tr. opii, gtt. xl, in starch-water as an enema three or four times a day. Dulness on percussion, and subcrepitant râles, were noticed over the base of the right lung.

13th.—Urine still bloody. Ordered acid. tannic. grs. v every two hours, to be increased to grs. x if no vomiting is thereby induced. Pulse 112, and thready. Tongue very dry and fissured, and extruded with difficulty. Tympanites and bloody urine persist.

14th—Urine somewhat less bloody and tympanites less marked. Is delirious. Much emaciation noticed.

15th.—Vomiting began this morning and would not yield to any of the remedies that were administered. Patient died at 11 P. M. No autopsy was permitted.

Though there is still an element of uncertainty about the diagnosis in this case, which only the autopsy could have positively removed, I think, from a careful survey of all the symptoms, that there is little question that we had here to deal with a case of acute nephritis, occurring in the course of typhoid fever. The course of the case bears a very strong resemblance to that of a case reported by E. H. Greenhow, in the *Transactions of the Clinical Society of London*, 1880, xiii. The urine not having been examined for albumen until its appearance (smoky hue, etc.) suggested the probability of its containing a large amount of albumen, it is impossible to tell exactly when the nephritis was first developed. Very probably, however, it became developed before the end of the third week, for, as has been seen, it was observed that the patient had difficulty of micturition only two or three days after his admission to the hospital.

The vomiting that occurred just before his death may have been of uræmic origin, or it may have been secondary to the very marked peritoneal irritation from which he was evidently suffering.

Though renal congestion is of common occurrence in the course of typhoid, as in the course of any other disease attended with great heat of skin, true acute nephritis (which this seems to have been) has, I think, not been very frequently observed. I have not as yet been able to find notices of more than five or six cases of typhoid fever in which acute nephritis occurred during the height of the disease as a complication of it.

DEATH FROM A PESSARY.

By HOWARD A. KELLY, M.D.,
OF PHILADELPHIA.

E. S., a wizened, decrepit, little German woman, seventy-five years old, called on me during the latter part of March, making some unintelligible complaint about her uterus. Placing her on her back and separating her knees the shrunken parts of an old woman were visible, and oozing out from between the labia was seen an intensely fetid yellowish discharge. She broke wind freely per vaginam at the moment of examination, leading me to infer the probability of a recto-vaginal fistule.

Digital exploration revealed a hard crusty mass greatly dilating and filling the whole vaginal canal. It was easily indented by the finger, and felt like a large scybalous mass. Every movement caused fresh discharge to flow, the odor of which was so foul as to compel the gentlemen with me to leave the room.

The mass proved to be a ring pessary made of polished, painted leather, stuffed with oakum. It measured eleven and a quarter inches in circumference, and had a lumen of five-eighths of an inch, the circumference of the sides of the ring being four and a half inches, and the diameter one and three-eighths inches. Considering the size, it was comparatively light, a new one in my possession weighing but two and a half ounces.

She had worn this pessary *continuously* for fourteen years, never once having removed it since its insertion by a German midwife in Strasbourg, for "falling of the womb." She had felt no discomfort of any kind until recently, when difficulty of defecation, dysuria, and the odor, intolerable to the members of the family, drove her to seek advice.

The ostium vaginæ was so much smaller than the pessary that my most vigorous efforts with the unaided hands could do little more than induce it to present at the opening. By hooking a No. 25 steel sound through the hole in the centre and catching the index finger of the left hand under the point of this, completing a loop, I was able to make strong steady traction, with the axis of the pessary in that of the canal, and thus in a few minutes to remove it, with a slight laceration of the perineum. The pessary was coated and its lumen choked with a thick, yellow, putty-like mass of inspissated vaginal secretion.

The only trace of its presence left in the vagina, besides the patulous canal, was a zone of ulceration an inch broad, below, and circling round the diminutive cervix. This zone was yellow and flat, and there were no granulations, such as I have invariably seen embedding the narrow, hard-rubber pessaries when worn for several years without removal.

She was directed to keep plugs of cotton smeared over with ointment in the vagina, and to remove these frequently, and to syringe herself with a strong solution of permanganate of potash.

She returned in a few days complaining of a severe diarrhœa and anorexia; a week later the elevated temperature, quick pulse, and dry brown tongue showed the beginning of the typhoid state, in which she died, about three weeks after I first saw her.

2517 NORTH FRONT STREET.

HOSPITAL NOTES.

MEDICO-CHIRURGICAL COLLEGE CLINIC.

Service of PROF. T. E. GARRETSON.

EXCISION OF INFERIOR MAXILLARY NERVE FOR NEURALGIA.

THE first patient had undergone many operations, and Dr. Garretson frankly confessed his utter inability to determine the location of the lesion that caused the pain. The use of the voltaic pile bound over the parts at night afforded relief for months. Blaud's pills of the iron sulphate and potassium carbonate, fifteen grains of each daily, were used, but have proved of little avail, although persevered in for several months; as had likewise been done with Duquesnel's aconitia in doses of $\frac{1}{200}$th grain every two hours until numbness is felt. A like result followed the use of Brown-Séquard's pills, as also the following local application, recommended by Dr. J. L. Ludlow:

℞.—Atropiæ sulphatis,	gr. ss.
Aconitiæ,	gr. jss.
Oleii tiglii,	gtt. ij.
Ung. petrolii,	ʒij.

Finally he was treated tentatively, with every medicine in which lay hope of doing good, but without effecting a cure, and all that could now be done was to relieve the pain by hypodermic injections.

Other obscure cases were shown to illustrate how, under distressing circumstances, it becomes necessary for the surgeon to attempt operation after operation, with the hope of eventually removing the affected portion of the nerve. Among these a robust mulatto was a victim of sciatica, the result of rheumatism. Eight drops of chloroform were injected into the deep tissues of the muscles at the ilio-femoral crease, the lecturer giving it as his experience, that while this drug is curative as regards the sciatic region, it is exactly the converse when used about the face. The patient, when asked if he suffered from a sensation of burning pain that might be expected from the use of this remedy, replied "not particularly." Before the clinic was over, he expressed himself as experiencing relief from the injection.

The next patient was a delicate woman who had long suffered from neuralgia in the region to which the temporal branches of the auriculo-temporal nerve are distributed. There was also marked vascular disturbance in this locality.

Having determined to ligate the temporal artery and excise the temporal branch of the auriculo-temporal nerve, Dr. Garretson made a vertical incision in front of the ear down to the level of the zygoma. Stress was laid on passing the grooved director under the tissues before cutting, and feeling that portion held up by it for indications of pulsation before cutting, so as to preclude the possibility of wounding the vessel. The artery being found and ligated first, the nerve was next exposed, isolated from the surrounding tissue and about an inch of it was resected.

The next was a case of excision of the inferior maxillary nerve and its mylo-hyoid branch at the point of exit from the cranium by the foramen ovale. The patient was a great sufferer from persistent neuralgia related with the inferior maxillary nerve and its mylo-hyoid branch. He could neither talk nor eat with comfort, and his life was made altogether miserable.

The patient was etherized, then an incision was made which began an inch above the angle of the jaw and was carried downwards and forwards to the length of an inch in front of it, this cut being in the shade line below the bone, to avoid injury to important parts covered; the integument was pulled upwards upon the jaw and then incised. Ligation of the facial artery is commonly made necessary as a result of this first step, and it was required in the present instance.

By stretching the wound with retractors the bone was exposed and a small surface denuded of its periosteum, through which part an opening into the inferior dental canal was quickly effected by the bur of the surgical engine. The nerve was then raised from the canal and severed, the central end being left in the grasp of bulldog forceps. Using the nerve as a guide, the engine bur was carried to the posterior dental foramen, which, like the canal, was enlarged to admit of the passage of a fenestrated instrument through the ramus of the inferior maxilla to the base of the cranium. The hemorrhage was controlled by the ligation of the inferior dental artery, and the use of tannic acid applied in powder to the vascular surfaces of the wound; after which the nerve was severed and the removed portion exhibited to the class. Dr. Garretson spoke of the danger of using a sharp knife in the parts so near the internal maxillary artery without the edge being guarded, and recommended a delicate guillotine, somewhat upon the plan of a tonsillitome.

MEDICAL PROGRESS.

The Bacillus of Cholera Nostras.—Professor Finkler, of Bonn, read a paper on this subject before the Society of German Naturalists and Physicians, at its recent meeting in Magdeburg.

The first part of his paper was a recapitulation of the paper, by himself and Professor Prior, which appeared in the *Deutsche medicinische Wochenschrift*, of September 4, a translation of which is to be found in The Medical News, of September 27, 1884.

In their researches on cholera nostras they have found a bacillus which is precisely similar to that described by Koch as occurring in cases of Asiatic cholera. The period, in cholera nostras, during which nothing but comma-bacilli are found in the cultures, is very short; it is between 24 and 48 hours after the commencement of the culture process that a pure culture is found. The culture materials were the same as those employed by Koch; linen, alkaline pieces of meat, milk, potatoes, and gelatine. The same coloring materials were also used.

Koch has already mentioned the presence of certain spirilli among the bacilli; these were also found among the bacilli of cholera nostras. There were also other spirilli which occurred as long thick threads, and seemed to stand in a certain relation to the bacilli. At a certain period they were very numerous in the cultures, formed a club-shaped swelling, and from the swelling small comma-bacilli fell out in great numbers. At a later period nothing more was seen of the club-shaped growths. One may also see something like single comma-bacilli attached to these spirilli. Then, too, there are forms similar to the spores of the erysipelas-cocci.

To draw a conclusion from his researches, Professor Finkler says, that he believes the bacilli found by Koch and those now described by himself are identical. The diagnostic value of the cholera bacillus will be almost destroyed if it can be shown that it is also found in cases of cholera nostras when there is no Asiatic cholera in the vicinity. [He has stated in the first paper that he believes the cases at Bonn to have been cholera nostras.] Is there then a pathological difference between severe cases of cholera nostras and mild cases of Asiatic cholera? He believes that the principal difference between the two diseases is, perhaps, to be sought in other things than in the existence of different bacilli.—*Wiener med. Presse*, September 28, 1884.

Professor Kobner asked whether the considerable difference in size between the bacilli found at Bonn, and those seen in Koch's preparations, especially the difference in thickness, was due to the different microscopic power used, or really existed. He had seen such a difference in size several years ago, in examining the bacilli of leprosy.

Professor Finkler said that both of the factors mentioned by Professor Köbner were instrumental in showing a difference in the size; and that there is in every culture a great difference in the size of the individual bacilli, as both large and small ones are seen in Koch's preparations. Replying to a question by Dr. Immermann, he said that he had studied the capacity of the bacilli for resisting different chemical substances, and their behavior on different culture-materials. The unfavorable action of acid was clearly seen. As to the microscopic nature of the cultures, he could only confirm what had already been said by Koch. His own cultures were similar to those described by Koch.—*Deutsche med. Wochenschr.*, September 25, 1884.

The Inoculation of the Cholera Bacillus.—The *Deutsche medicinische Wochenschrift*, of September 25, publishes the following letter from Drs. Nicati and Rietsch, of the laboratory of the Pharo Hospital at Marseilles, to the *Semaine Médicale:*

If one inject into the duodenum of a dog, after ligation of the ductus choledochus, some of the contents of the intestine of a person who has died of cholera, or a part of a pure culture of comma-bacilli, the animal will die in one or two days, and his intestinal tract will be found to contain a milky, pap-looking substance very rich in epithelium; just as much so as in the case of a person who has died from an attack of only a few hours' duration. In this substance the bacilli increase as rapidly as in a case of cholera, if the air be moist and the temperature suitable.

In experimenting upon guinea-pigs these changes can be obtained by making the injections into the duodenum alone, and without ligating the common duct; and they may be produced by injection into the stomach with a tube, provided a considerable quantity of the material be used. The symptoms observed in these animals during life are: diarrhœa, vomiting (in the case of dogs only), and cyanosis, with fall of temperature; in one case a rise of temperature was observed, in a dog, after death. On examination of the blood of these animals, nothing more was found than is seen in the algid stage of cholera; such as crenation of the red blood-discs.

From their results they conclude that, if further inoculation of the comma-bacillus is to be obtained, it will only be possible by elimination of the digestive fluids; and their first care was, after they had mastered the methods for cultivating the bacilli, to study the different digestive fluids. The gastric juice destroys the bacilli very energetically, as Koch has shown. The pancreatic juice has no action on them; nor does the bile appear to have a greater influence, as was seen with bouillon mixtures: though it seems as though under other circumstances it would have some effect. In the examinations of the stools, in which the bacilli were found in great abundance, they proved by the nitric acid test that no bile was present. In rapid cases of cholera they found the pathological changes reaching up to the pylorus; in fact, the maximum of intensity of the diseased process was found in the upper part of the intestine. The duodenum was as much injected as the ileum, and just as full of the pap-like material. But there was no trace of biliary coloring matter, and even the mouth of the bile-duct was filled with it.

These facts seemed to show that the duodenum is the proper place for the inoculations. The experiments (more than twenty) are by no means concluded. They point out one source of error; there exists in the discharges of men and animals, especially in those of swine, a crooked bacillus, also found in the air, which may be easily mistaken for the cholera bacillus. The colonies are transparent, as are those of the comma-bacilli, and the chief point of difference lies in the rough contour; the colonies of the comma-bacilli have fine granular borders, those of the other bacilli have rough borders. The latter bacilli are also much larger, less curved, and often seem as though broken in the middle by segmentation; furthermore, they do not multiply on moist linen.

Nephrectomy for Calculous Pyelitis.—Professor E. Bottini reports the case of a man, twenty-seven years of age, from whom he removed a kidney on account of calculous pyelitis. When twelve years old he had had a vesical calculus removed by the lateral operation. At fifteen he had an abscess in the right iliac fossa, which opened spontaneously; but another appeared in the right lumbar region within a few months, and was opened with caustic potash. From this time he had a fistulous opening in the lumbar region, and when seen by Professor Bottini, the diagnosis, calculous pyelitis with lumbar fistula, was easily made.

The operation was performed by the lumbar incision, under antiseptic precautions. After removing the kidney the fistula was attacked, and closed with metallic sutures. The patient was out of bed on the sixth day, and left the hospital on the twenty-fourth. The removed kidney weighed oz. jss, was 2⅞ inches long, 1⅜ wide, and ⅛ inch thick.—*Gazz. degli Ospitali*, Aug. 31, 1884

Oxide of Zinc in Venereal Wounds.—Dr. J. Glasunov reports (*Vratsch*, No. 22, 1884) that in cases of soft chancre he has observed rapid clearing up and healing under the use of powdered oxide of zinc; even in cases in which almost the entire venereal armamentarium had been exhausted, without the slightest improvement. It is especially useful when the chancroids are situated in the folds of the nymphæ and labia. After the wound has been cleansed with carbolic acid solution it is dusted over, twice daily, with powdered oxide of zinc, and is then covered with wadding or cotton.—*Centralbl. für Chirurgie*, Sept. 13, 1884.

Ergotine in Delirium Tremens.—Dr. Arnoldoff reports (*Vratch*, No. 37, 1884) that ergotine is a most excellent remedy in cases of acute alcoholism, and refers to seven cases in which the insomnia of alcoholism was completely relieved by gr. xv–xx. In cases of chronic alcoholism bromide of potassium should be given with the ergotine. Severe cases of insomnia, hallucinations, etc., will generally yield after about ʒj of ergotine has been given.—*Gazetta degli Ospitali*, Sept. 14, 1884.

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SATURDAY, OCTOBER 18, 1884.

LAPAROTOMY FOR PERFORATIONS OF THE INTESTINES AND STOMACH.

During the past year several cases have been recorded which demonstrate that the expectant treatment of traumatic and pathological perforations of the intestinal tract should be abandoned, and that exploratory laparotomy should be resorted to for the objects, first, of arresting hemorrhage; secondly, of sewing up the injured part, after a preliminary excision, if the injury be extensive, through which, if it has not already occurred, fecal effusion will be prevented; and, thirdly, of cleansing the peritoneal cavity of extravasated fluids.

At the recent meeting of the American Medical Association, two papers on wounds of the intestines, from the pens, respectively, of the late Professor Gross and Professor Parkes, of Chicago, were read, in which the imperative necessity for laparotomy in these injuries was fully recognized. In addition to these papers, Professor Kocher, of Berne, has recorded, in the *Korrespondenzblatt für Schweizer Aerzte*, December 15, 1883, a recovery after abdominal incision for gunshot wound of the stomach; and Professor Mikulicz, of Krakow, reported at the *Versammlung der Deutscher Naturforscher und Aerzte in Magdeburg*, September, 1884, a successful laparotomy for perforative peritonitis. These cases afford conclusive evidence of the importance of suture in perforative lesions of the stomach and intestines, whether they are induced by wounds or morbid processes, and one of them shows, moreover, that exudative peritonitis is not a contraindication, provided the patient's powers are not exhausted.

Three hours after a pistol-shot wound in the region of the stomach, in a boy fourteen years of age, pallor, swollen and painful abdomen, hiccough, vomiting, and symptoms of collapse induced Kocher to open the belly, when a large quantity of dark venous blood escaped. The wound, which was situated on the anterior surface of the stomach, toward the greater curvature, was circular, and about half an inch in diameter. The edges were brought together with two catgut sutures, and the serous coat was inverted around the wound by a continuous silk suture. The boy made a good recovery, but it was retarded by an abscess which formed in the track of the threads.

The case of Mikulicz was that of a man, fifty years of age, who experienced a sudden, sharp pain on jumping from his bed. Symptoms of ileus supervened in two hours, and steadily increased in severity for two days, when they were followed, at the end of another day, by signs of peritonitis. On incising the linea alba, more than a quart of thin, offensive pus escaped, and bits of undigested potato were found in the peritoneal cavity, into which they had made their way through a perforation in the ileum, one-fourth of an inch long by one-sixth of an inch wide. As the glands of the mesentery were enlarged, and as there was no other clue to the production of the opening, Mikulicz thought that it was probably an example of perforating ulcer in a walking case of typhoid. The edges of the ulcers having been excised, they were brought together by twelve points of suture, the peritoneal cavity was carefully cleansed, a drainage-tube inserted, and the abdominal wound closed. The symptoms of peritonitis gradually disappeared, and the man was soon able to attend to his affairs.

In addition to these cases, reference may be made to a brief notice in the *Correspondenzblatt*, No. 16, 1884, of a laparotomy for peritonitis resulting from perforation of the vermiform appendix, with resection of the latter, by Krönlein, of Zurich. The result is not given, but it serves to illustrate what should be an accepted principle of treatment.

In gunshot injuries of the intestines the wounds are usually multiple, Gross having met with not less than eight perforations, while, in his experiments upon dogs, Parkes found that solitary openings were the exception. It is for this reason, apart from the concomitant shock, that the prognosis of this class of injuries is far less favorable than that of the lesions described in the preceding paragraphs. If the shock be not excessive, the line of action, however, is perfectly clear. The wounds should be closed with sutures, or, if they are large, enterectomy and enterorrhaphy should be resorted to. When they are situated very near to each other, one operation of this kind will suffice, but if the openings are widely separated, several resections will be necessary. In the latter event, the outlook will not be promising.

We are not able to recall, at the present writing, any examples of enterectomy for gunshot injuries. Indeed, the only case that recurs to us in which a portion of the intestine required excision for a perforating lesion is one recorded by BOUILLY in the *Bulletins de la Société de Chirurgie*, t. ix., 1883. A man was kicked by a horse on the belly below the umbilicus. On the following day, signs of peritonitis being well marked, the abdomen was opened, and the intestine was found to be the seat of a large perforation, as well as of a brownish slough, which was on the point of separation. As the two lesions were close together, the affected portion of the gut was resected and the edges united with twenty-six points of Lembert's suture. At the end of forty-eight hours the symptoms of peritonitis had disappeared, but the abdominal wound opened on the third day and gave vent to fecal matter. The stercorous fistule remained open, and the general condition of the patient was most excellent, when, as the result of a too hasty exploration of the abnormal opening, peritonitis again set in, and the man succumbed.

THE BACILLUS OF CHOLERA MORBUS AND OF CHOLERA.

AT the recent Congress of German Physicians and Naturalists sitting at Magdeburg, FINKLER read a paper on the bacillus of cholera morbus and its culture. After numerous trials made in association with Prior, he seems to have been successful in cultivating a comma-bacillus, in no way distinguishable, either structurally or in behavior under culture, as to culture medium, time, or temperature required, from that of true cholera. So that other means of diagnosis must be found between the two forms of cholera. This, it would seem, is to be found in a sporule stage which has not yet been discovered for the true cholera bacillus, and that the bacillus of cholera nostras is developed from these spores. So far as the symptoms are concerned, it is well known that they are so strikingly similar that from them alone it is impossible to make a differential diagnosis. It is rather the shortness of duration and the favorable termination which distinguish the milder from the more fatal malady.

In contrast to the above are the results of some inoculation-experiments recently practised at the Pharo Hospital at Marseilles by NICATI and RIETSCH, in which the injection of some of the duodenal contents of cholera patients, or of cultures of the comma-bacillus, into the duodenum of a dog whose common bile-duct was tied, was followed by death in a few days, and the intestinal tract was found filled with a milky pulp very rich in epithelia. In this the comma-bacillus grew abundantly. The same thing occurred with guinea-pigs, in which the common bile-duct was not tied; also when the infectious material was introduced into the stomach in very large quantities.

The symptoms during life were diarrhœa and vomiting, in the case of dogs, and cyanosis with lowering of temperature, and, in one case—that of a dog—a rise of temperature after death. Minute study of the blood showed, in the algid stage, a disposition to crenation in the red blood-corpuscles, and a flattening of the same—a condition observed in connection with the asphyxia resulting from mechanical obstruction of the air-passages.

These are results one would expect from the clinical history of cholera, in which it is ascertained that it is those persons with defective digestion who are liable to the disease. Yet, in order to test this, the action of various digestive fluids upon the cholera-bacillus was tried. It was found that the gastric juice exerted energetic solvent action upon the comma-bacillus, the pancreatic juice was without effect, while the bile exerted but a feeble influence upon the organism when contained in bouillon. Other facts, however, went to show that bile does exert a decided action upon the living bacillus. It was ascertained that stools which were richest in bacilli contained not a trace of bile; also that, while the pathological processes extended as far up as the pylorus, and that the duodenum was as much injected as the ileum, and was filled with the characteristic milky fluid, there was no trace of bile, and the common bile-duct was obstructed by the milky fluid. Everything in the experiments which were made pointed to the duodenum as the seat of infection.

The experimenters also call attention to a curved bacillus found in the evacuations of man and animals, and especially of pigs, which is to be found in the atmosphere, and is easily confounded with the comma-bacillus. Its colonies are likewise transparent, refracting light but slightly, but differ from those of the comma-bacillus in the more nodular appearance of their contours, those of the comma-bacillus being more finely granulated. Each bacillus, too, is larger, less curved, and appears often as if broken in the middle by fission.

Thus, it will be seen that our knowledge of this important organism is gradually extending, and there can be little doubt but the investigations now proceeding in favorable fields in Europe and in India will result in the evolution of knowledge, which, although it may be subject to change, must still have the effect of making cholera a less dreaded scourge in the future than it has been in the past.

DEATH FROM A PESSARY.

STRANGE objects have been introduced into the vagina, such as a snuffbox, hairpin—several instances of this are on record—the bobbin of a spinning-wheel, spools, the stalk of a candlestick, the bowl of a pipe, pepper-box, pomade-pot, a wine-glass, a cone from a pine tree, a coffee-cup, a doll-baby's head and chest. A purse of money has been hidden in the vagina, and it has been strongly suspected, but we do not know that it has ever been proved, that female smugglers make this cavity a temporary receptacle for diamonds, and that many thousand dollars' worth of these precious stones have been thus brought into this country without any duty being paid on them. A few years ago some twenty-five thousand dollars' worth of diamonds appeared in the New York market, upon which no duty had been paid, and the only explanation given of the diamonds escaping the rigid search of the custom-house officers was that just mentioned. In consequence of this, one of the female inspectors of the Custom House applied to a distinguished New York physician to know whether such a mode of concealment was possible, and whether she would be justified in making vaginal examinations in women suspected of such smuggling.

Probably, however, if all the cases of introduction of foreign bodies into the vagina, from thoughtlessness, for the gratification of passion, for the accomplishment of a criminal purpose, or from abominable and cruel wickedness, were collected, the mischief that they caused would not be a tithe of that which has resulted from pessaries, when these, no longer fulfilling any useful purpose, have become positively injurious. A "Babcock's pessary" has found its way into the uterus. The late Dr. Crowe, of Louisville, Ky., reported an instance of this. Other examples have occurred in which the pessary has caused ulceration of the anterior as well as of the posterior vaginal wall, and thus while a part of the instrument remained in the vagina, yet another was in the bladder, and a third was in the rectum.

M. **Leonard** reports, in the *Progrès Medical*, September 18, 1884, the case of a woman, fifty-four years old, who had worn for two years, without removal, a very large pessary, and whose death was attributed to the instrument. The patient had cystitis, albuminuria, and very obstinate constipation. The pessary, which was between one and two inches in thickness, and three and a third in diameter, was removed with very great difficulty and its withdrawal was followed by the discharge of an infectious mucopurulent fluid. The reporter thus explained the pathogeny of the case. The infectious mucopurulent products which flowed from the vagina had been absorbed by the veins or lymphatics at the ulcerated part of the vagina, and produced the acute renal congestion shown at the autopsy. **Dr. Kelly** records in our present issue an interesting case of death caused by a pessary; the history being in some respects similar to that of the case of M. Leonard.

We may add that Rokitansky (*Wien. med. Presse*, 1877, p. 655) has reported a case in which a woman had worn a Hodge pessary more than four inches in length and nearly three in its greatest width, for nine years; it had become in great part embedded in the vaginal walls, but it was removed by him, and no serious consequences followed.

VENEREAL ORGASM IN WOMAN IN PROGRESSIVE LOCOMOTOR ATAXIA.

Dr. A. Pitrès, Professor of the Bordeaux Medical Faculty, narrates in the *Progrès Medical* three cases in which "clitoridian crises" were observed at the beginning, or in the course of, progressive locomotor ataxia. All three of the subjects were between forty and fifty years of age, and in all the spontaneous voluptuous sensations were observed some time before the characteristic symptoms of the disease were manifested. In one of them the interval was four years. She was living with her husband, and conjugal pleasures were moderately indulged in; yet suddenly, without any lustful thought, or artificial excitement, a sort of tingling was felt in the vagina, then the clitoris was affected by the sensation, and its erection occurred, and very soon followed an undoubted erotic spasm with ejaculation, as in normal coitus. These spontaneous voluptuous crises were almost always repeated three or four times in the same day, and then were absent for one or two weeks. In a second patient the voluptuous crises were present for a year, and in the third ten years before the characteristic symptoms of the disease manifested themselves.

From his observations of these cases Dr. Pitrès concludes that the presence of clitoridian crises ought to lead to the suspicion of tabes dorsalis, even when every other symptom of the affection is absent; and that when these crises coexist with even one of the ordinary symptoms, the disease may be diagnosticated in the absence even of all actual disorder in the coördination of movements.

DO NOT TURN OUT THAT CLOT.

All who ever heard the late Professor Charles D. Meigs lecture upon post-partum hemorrhage cannot forget the earnest force with which he exclaimed, "Turn out that clot!" But absolute rules in medicine are few, and this one, it appears, has its exceptions. **Dr. James F. Hibberd** recently read a paper before the State Medical Society of Indiana, narrating a case of post-partum hemorrhage, in the treatment of which a practice directly the opposite of that counselled by Dr. Meigs was successfully pursued.

Dr. Hibberd's case was briefly as follows: The patient, a secundipara, fifteen minutes after the birth of her child, had hemorrhage, the placenta being in large part adherent, as ascertained upon the introduction of the hand into the uterus, and it was with great difficulty detached. Immediately after the removal of the placenta, firm contraction of the uterus was secured by external manipulation, the patient's head having been previously put on the same plane as the body; a full dose of fluid extract of ergot, a medium dose of morphia, and a small quantity of alcohol were given; one hand was placed upon the uterus, and the fingers of the other upon the pulse. In a little while the patient fainted; but, though none of the usual efforts at restoration were made, in fact nothing was done, she soon rallied. She again fainted, and again spontaneous revival occurred, followed by perfect restoration and rapid convalescence. Dr. Hibberd remarks: "In my puerpera I looked for syncope, and desired it for remedial purposes. When satisfied that I had removed the last vestige of the placenta, I was apprehensive that the violence of the manipulation its removal had necessitated had abraded some part of the surface of the womb and left an oozing of blood or broken a vessel that the contraction of the uterus did not close, and it was my hope and belief that syncope would favor the formation of a clot that the reëstablishment of the circulation would not remove." The second swoon, though not anticipated, was not alarming, for the hand upon the uterus showed that there was no new hemorrhage. He believes that if he had removed the clot, and endeavored to secure a better contraction of the uterus by manipulation, by ice or styptics, his patient would have died.

And now we wish to put by the side of this case one narrated by Lumpe in a recent number of the *Archiv für Gynäkologie.* The two tend to prove that the rule of turning out the clot is not always absolute. Lumpe's case was as follows: "A primipara, forty years old, had premature rupture of the bag of waters. The os was rigid, resisting, badly dilating; the first pains were weak; the face presented, abnormal rotation occurred, and labor had finally to be ended by the forceps, the cervix being badly torn in the delivery. After the delivery of the child the uterus did not contract at all, but remained relaxed like a leather bag, and its contour could not be felt through the abdominal walls. The placenta was detached, but still there was no contraction of the uterus; yet the bleeding was not excessive. More blood was discharged than usual, but gradually the flow ceased, and I felt in the cervix coagula. I believe it would have been most improper for me to have removed the blood coagula from the uterus and the vagina, for only the exceptional coagulability of the blood saved the woman from flooding."

The fifth volume of the Index Catalogue of the Library of the Surgeon-General's Office has just been received. Like its predecessors, it has been prepared under the supervision of Dr. Billings, and extends from *Flaccus* to *Hearth.* It covers 1055 double-column, closely printed quarto pages, and includes 15,555 author titles and 42,196 subject titles. The magnitude and value of the volume may be judged by the fact that the references to *fœtus*, for instance, cover 21 pages; to *gangrene*, 17 pages; to *goitre*, 13 pages; to *head*, 56 pages; and the bibliography of the *heart* covers 101 pages.

These volumes reveal the immense wealth of the medical library which has been fostered at Washington through the indefatigable and intelligent zeal of Dr. Billings, and they constitute a very strong, although mute, appeal to Congress for a liberal appropriation for the erection of a fire-proof building for the safe preservation of this collection, the value of which cannot be overestimated.

REVIEWS.

Physiological Cruelty, or Fact vs. Fancy: an Inquiry into the Vivisection Question. By Philanthropos. 4to. pp. vi. 156. New York: John Wiley & Sons, 1883.

If anyone, doctor or layman, wishes to read a clear and dispassionate inquiry into the vivisection question, let him get this brief but valuable little book. Its origin is English (indeed, the sheets we observe are imported), and we regret not a little that its author's name is not disclosed, for it is a work he need not be ashamed of.

Most books on this question are full of invective and passion. Perhaps we should qualify this somewhat. The little that physiologists and other medical men have written in favor of vivisection has nearly always betrayed an *animus*, and not seldom some deep feeling —and a righteous wrath on their part is quite excusable; but the many writings of the opponents of vivisection, tracts, pamphlets, reports, etc., have been nearly wholly sentimental sympathy with animals, or unmitigated abuse and vituperation of doctors. Even flaming illustrated placards have been resorted to in England, to show imaginary horrors.

But Philanthropos—a happy pseudonym as contrasted with Zoöphilist—with wise but rare discretion, confines himself to a philosophical, unimpassioned, rigorous inquiry into facts, and from these deduces his conclusion, which, we need hardly say, is overwhelmingly in favor of vivisection. Only on one page do we meet with a sentence or two that betray any passion. That he can so keep his patience is quite out of the common.

We cannot pretend to analyze the book. Anyone can read it all through in an evening; and it will be a well-spent evening. We hope that many of our readers will buy it and use it as a circulating library. Especially is this use to be commended in view of the activity of the anti-vivisectionists at the present time. Its pages are an armory to supply us all with weapons at a moment's notice.

The inquiry is first, as to what are pain and cruelty, and what our rights over animals? Then what is vivisection? All of these are important definitions and statements of exact facts. Then follow two chapters on the relation of experiment to physiology, and the relation of medicine to experiment, wherein the achievements of experimental research are well set forth. Legislation on the subject and a final chapter terminate the book. A valuable appendix follows, which should on no account be overlooked, as appendixes are apt to be, in the reading.

Doctors have defended vivisection far too little. While we have been indifferent, the other side, by abuse, misrepresentation, and sympathy, have won many to their side. It is time for us to be up and doing, especially when legislation is threatened that will hamper medical progress and hurt the human race in health and happiness. This book will aid more than a little in this struggle for the right.

HEALTH HINTS FOR TRAVELLERS. By JOHN C. SUNDBERG, M.D. Pp. 61. Philadelphia: D. G. Brinton, 1884.

THE thinness of this book is fairly indicative of its literary constitution, and the wide margins of its pages are singularly appropriate as a hint regarding the way its statements are to be accepted. Thus, for example, the author declares on p. 15, "Although the winter temperature of Norway and Sweden is usually very severe, sometimes falling below the freezing-point of mercury, I never remember to have suffered much from cold, although I have spent nineteen winters in Norway." Such a record is truly wonderful, and unless we explain it on the supposition that Dr. Sundberg's memory, in regard to a day here and there in those nineteen winters, has failed him a little, the unusual power of calorification manifested by his organism would render him a valuable officer in the next search after the north pole.

And yet the gathered experience compressed into this volume is well worth the attention of travellers, and may be consulted with advantage which will far outweigh its cost, by anyone about to leave home, even for a few days' excursion. Among the chapters which deserve commendation are those upon "Getting Ready," "Tours Afoot," "Sea-sickness," and "The Insect Plagues," all of them being replete with practical suggestions of value. Hence we heartily commend it to the consideration of those envied individuals who, during the fiery heats of July and August, are so fortunately situated that they can get away.

SOCIETY PROCEEDINGS.

AMERICAN GYNECOLOGICAL SOCIETY.

Ninth Annual Meeting, held at Chicago, September 30, and October 1 and 2, 1884.

(Specially reported for THE MEDICAL NEWS.)

WEDNESDAY, OCTOBER 1ST—SECOND DAY. AFTERNOON SESSION.

(Concluded from page 413.)

DR. PAUL F. MUNDÉ, of New York, read a paper on

THE LIMITS OF VAGINAL HYSTERECTOMY FOR CANCER.

He said that he had operated in two cases of uterine carcinoma by the method of vaginal extirpation. One case had survived the operation nine months, but the disease, as predicted by Dr. Heitzmann from a microscopical examination, had returned. The other case died from loss of blood.

He exhibited the uterus and adnexa removed from these two cases. He desired to reply to Dr. Jackson's paper, read at the last meeting of the Society, in which the conclusion was reached, that extirpation of the cancerous uterus was not justifiable. If Dr. Jackson had confined himself to the condemnation of Freund's operation, he would have fully concurred with him. Freund himself had given up this operation. Dr. Jackson's propositions were:

1. A diagnosis of uterine cancer could not be made sufficiently early to insure its complete removal by extirpation of the uterus.
2. When a diagnosis could be made there was no reasonable hope for a radical cure, and other methods of treatment for ameliorating suffering or retarding the progress of the disease and prolonging life, were equally effectual.
3. Extirpation of a cancerous uterus was a dangerous operation.

He then proceeded to reply to Dr. Jackson's propositions by an array of clinical and statistical evidence. To the first proposition, alone, he partially assented. To the third, he presented the following statistics in reply:

Billroth's Clinic.

		Mortality.
Excision of mammary cancer,	34 cases,	20 per cent.
" lingual "	18 "	43 "
" rectal "	5 "	53 "

Rose's Clinic (Marburg).

Mammary cancer,	$26\frac{8}{10}$ "
Lingual "	11 "
Rectal "	53 "

Schröder had recently reported 105 high vaginal amputations, with a mortality of 13, or 12.30 per cent.; in Freund's operation a mortality of 62 per cent.; in 13 supravaginal amputations by laparotomy, a mortality of 30 per cent. Of all cases collected of total extirpation of the cancerous uterus, 256 in all (10 of these being American), 62 cases, or 24.6 per cent., died. Surely a good showing in comparison with the results of excision of cancerous tumors from other organs. THE MEDICAL NEWS, of September 19, 1883, published in its editorial columns the mortality of 167 operations; 52 patients, or 31.13 per cent., had died. With increased experience, more perfect technique, and careful selection of cases, the mortality of total extirpation of the cancerous uterus would be brought down to a still lower figure.

Dr. Mundé formulated his conclusions after this thorough *résumé* of clinical observations and statistics as follows:

1. Limitations of the cancerous degeneration to the uterus and absolute freedom from disease of the parametrium. (Of course, the disease must extend above the level of the vaginal vault, and be ineradicable by simple amputation or excision.) If the finger in the vagina or rectum detects the slightest infiltration of glands, lymphatic vessels or cellular tissue, or the microscope reveals doubtful cellular formations in sec-

tions of mucous membrane removed from the vaginal vault, complete extirpation should be abandoned.

2. Cancer of the cervix extending up the cervical canal to a height, the precise limit of which is doubtful, thereby rendering the probability of complete removal of the disease, by high supravaginal amputation and cautery, extremely questionable.

3. Cancer or sarcoma of the body of the uterus. Schröder's method of intraperitoneal amputation of the *corpus uteri* might be substituted (7 operations, with 2 deaths; no recurrence within two and a half to five years in 4 cases, or 80 per cent.). The fifth case could not be traced.

4. Perfect freedom of motion of the uterus, so that the uterus can easily be drawn down to the vulva by traction on the cervix, and can be moved in every direction. This condition I consider absolutely indispensable.

5. A capacious vagina, permitting ready exposure of the cervix and vaginal vault throughout, and easy manipulation of ligatures and instruments. Section of the perineum should be admissible for the purpose only when a narrow vagina is the sole obstacle to a successful operation.

6. A sufficiently vigorous condition of the general system, such as absence of other serious organic disease of other organs, as to permit the patient to stand the shock which, as a rule, is very much less than the gravity of the operation would lead one to expect. Cachexia, if present, would denote such progress of the local disease as to contraindicate the operation. Olshausen had well said, "The safe plan is always complete extirpation."

DR. JACKSON did not think Dr. Mundé's array of evidence, clinical or statistical, rendered invalid the conclusions of last year's paper. Two centuries of human life had been needlessly sacrificed by the operation. The period of prolongation of life, in so-called successful cases, could not, by any array of figures, be made to equal two centuries. The fact that the mortality of the operation had been reduced from 31 per cent. to 25 per cent. had no particular bearing upon the principal question in Dr. Mundé's paper. He was strengthened in the position taken one year ago. Dr. Van de Warker was grieved that Dr. Jackson's paper had been apparently commended at last year's meeting, for the matter had escaped abroad that American gynecologists opposed the operation. This was not the case. Carlyle once wrote to Emerson, "Nothing lies like figures, except facts." Very few inferences could be logically drawn from statistics. The question at issue was, How many recover? not, How many die? He was an especial advocate of the knife. He thought other methods yielded equally favorable results.

DR. ENGELMANN thought the operation was still *sub judice*, and dogmatism, on either side, was in bad taste. The improvement in mortality statistics was sufficient to warrant continuance of the operation.

DR. PALMER cordially endorsed Dr. Mundé's conclusions.

DR. BAKER sympathized heartily with Dr. Mundé's conclusions. He had operated in six cases of uterine cancer by his own modification of the Sims-Schröder method. Five cases, after an interval of five years, are living.

DR. SCOTT thought the legal profession had lost in Dr. Mundé a member who would have reflected honor upon his calling. The question was a fight between the old fellows and the young fellows, and he always sympathized with the young fellows.

DR. REAMY was not influenced by Dr. Mundé's paper to such a degree that he was willing to subscribe to it.

DR. FENGER had listened to the discussion with interest, and was glad to hear opposition to Dr. Jackson's paper, which he believed to be unsound and illogical.

THURSDAY, OCTOBER 2D—THIRD DAY.
MORNING SESSION.

DR. EDWARD WARREN SAWYER, of Chicago, made

SOME REMARKS ON THE OCCIPITO-POSTERIOR POSITION IN VERTEX LABORS; WITH AN ANALYSIS OF THIRTY-FIVE CASES.

He said that since he prepared the paper he had met with three new cases of the occipito-posterior position, which made the total number of vertex presentations and occipito-posterior positions respectively 183 and 38. Great disparity exists among writers respecting the frequency with which the occiput is found in the posterior half of the woman's pelvis in presentations of the vertex. While the statistics of Madam Boivin[1] show that it was thus located 203 times in 19,717 vertex labors, or a fraction more than once in 100 times. Merriman encountered this position 3 times in 149 labors. In 178 labors, in which the vertex simply presented, occurring under the observation of the writer, the occiput was found posterior 37 times; or in nearly one-fifth of all vertex presentations. This series of 37 cases forms the basis of the writer's remarks. Between the right and left side of the pelvis there is the greatest inequality as to the frequency of the occiput. In 3 of the writer's cases it was in the left of the pelvis, while in the remaining 34 cases it was directed to the right of the woman.[2]

Satisfactory explanation of the frequency of occipito-posterior presentations of the vertex are not found in the literature of the subject. Of the writer's cases, 25, or about two-thirds of the entire number, occurred in primiparæ. This fact led to an inquiry as to the anatomical difference between the primiparous and multiparous woman, which would operate in a mechanical manner, with the following conclusions: The unyielding abdominal walls of the primipara, at their attachment to the upper edge of the anterior half of the basin, conform less readily to the square, unyielding back and scapular regions of the fœtus, than to its abdominal and thoracic surface. As a result, and in obedience to that law, whereby the ovoidal fœtal mass is disposed with reference to the greatest economy of uterine space, the back is made to occupy the hollow at the side of the woman's vertebral column. On the other hand, the parietes of the multiparous woman having been stretched, their elasticity permits the fullest operation of the laws of gravity, and of other influences, in compelling the occiput to occupy the lowest point, or the anterior half of the pelvis. This observation finds some support in the fact that the largest fœtuses have presented at the occiput posteriorly.

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[1] Mémorial de l'art des Accouchements, page 212 et seq., Paris, 1836.

[2] Velpeau, Traité complet de l'art des Accouchements, vol. i. page 504, Paris, 1835.

That the long diameter of the vertex is less frequently coincident with the left oblique diameter of the pelvic canal than with the right, is due, undoubtedly, to the presence of the rectum.

As to the mechanism of labor in posterior positions of the vertex, writers are remarkably in accord in perpetuating a theory, the correctness of which the author questions. The almost unanimous teaching is, that in posterior positions the mechanism of labor is the same, in all essential particulars, as in occipito-anterior positions. Chailly-Honoré, Tarnier, and Chautrail, Leishman, and Lusk, substantially advocate the doctrine.

Baudelocque, however, describes the mechanism in the following words: "In the most natural order the occiput sinks into the excavation, passing in front of the sacro-iliac symphysis till the posterior superior part of the parietal bone is grounded upon the base of the sacrum. At this moment, the head being forced to turn on its pivot, the occiput passes into the hollow of the sacrum, which is very near, and the forehead, in following the inclined plane, which is offered by the left side of the pelvis, is carried under the pubes."

Playfair admits that "the proportion of cases in which face-to-pubes terminations of occipito-posterior positions occur has been variously estimated, and they are certainly more common than most of our text-books lead us to expect. Leishman, however, speaks of this termination as a somewhat rare exception.

The writer's observation tends to show the reverse of this teaching to be true; and that, when the occiput engages in the excavation in a posterior position, it persists in remaining, and is delivered in this position if no interference is made. Further, that it is with the greatest rarity that the occiput rotates forward into the anterior half of the pelvis. In but two of my cases does the record state that this rotation was performed by the unaided efforts of nature. Both these cases occurred in the early part of the writer's practice; and, now that he realizes the fallacy of the mode of diagnosticating these positions by the vaginal touch alone, which he then employed, he is led to question the accuracy of the two observations. In three other cases the writer rotated the occiput with his entire hand in the vagina. In two other cases the fœtus was delivered by version. In the remaining thirty cases the occiput remained, and was delivered in its posterior relations, though in some of these cases rotation with the fingers was attempted. Rotation with the forceps or vectis was not tried. Waiting for spontaneous rotation forwards, as indicated by Lusk, was deemed injudicious by the writer. As regards the period of waiting for spontaneous anterior rotation, La Chapelle, in Case No. 38, waited twenty-four hours, delivered of a dead fœtus a woman, who died soon afterwards.

In two of the cases coming under the writer's observation, the mother died. The first was the wife of a physician, whose colleagues had waited some twenty-eight hours for spontaneous anterior rotation; forceps had been tried in vain. The writer delivered, with comparative ease, by version, the woman of a dead fœtus. The unfortunate lady died soon afterwards of shock and exhaustion. The second woman was delivered, with the aid of forceps and ether, by the writer, of a living fœtus. She died four hours afterwards of cardiac thrombosis. The period of waiting for anterior rotation had been too long. To conclude, given a case of this position, he writer entertains no expectation of spontaneous forward rotation of the occiput before either mother or child demand succor. The writer's rule is, never to allow, in vertex presentation, the head to rest at any point of the parturient canal longer than two hours after the waters have drained away.

Operative interference in cases of occipito-posterior positions must be regulated as to time and character by considerations of the individual patient. As regards diagnosis before vaginal examination, much may be inferred from the character of the pains, which, in occipito-posterior positions, are characteristically regular, short, and inefficient. After diagnosis, the patient being etherized, which may be definitely made by passing the hand between the face and the symphysis, and touching the superciliary ridges, two courses are open to the practitioner: (1) Drag the head through the canal in its posterior relations by means of the forceps, or (2) attempt anterior rotation.

With the entire hand in the vagina, the writer believes that in the larger percentage of cases the shoulders and head can be easily turned through one-fourth of a circle, by making pressure upon such parts of the shoulders and head of the fœtus as will at once be suggested to the accoucheur whose hand clasps within its palm the rounded head. The writer has derived some aid in using the external hand conjointly upon the abdomen; but he desires to emphasize the fact that he has failed, without exception, to rotate the slippery vertex with the finger-tips, as is so attractively described in some text-books. Sometimes, owing to the contraction of the uterine neck around the fœtal shoulders, anterior rotation by the hand is impossible without exposing the fœtus to danger. Rotation forwards being effected, it is the writer's opinion, that labor should be terminated by the forceps, while the woman is still under ether.

When rotation of the occiput forwards cannot be effected, the forceps must be applied as usually applied in America; the forceps is a peculiarly ineffective instrument in these cases. The woman is placed upon her back, and the forceps adjusted; now, either the blades will slip over the occiput, and injure the maternal soft parts or the ear zone, or the zone anterior to this region will be grasped, and traction will be made in the line of the principal axis of the maternal vertebral column, and as a consequence the head will be dragged firmly against the pubic symphysis.

The writer etherizes his patient, places her in the left lateral, or English position, with hip hanging over the edge of the bed. Then, he introduces and applies the continuous curved forceps, presented by himself to the profession in 1878. The handles of the instrument are brought against the anterior edge of the perineum, and traction is made in the direction of the pelvic axis. During this traction, the head is kept flexed, so that, at the moment of birth, occipito-frontal circumferences are substituted for occipito-mental dimensions, and the perineum is thus materially protected.

Just as the occiput appears at the vulvar orifice, the handles of the instrument may be grasped in the left hand, while the right is in readiness to support the perineum, and perform episiotomy. Some perineal laceration occurred in all of the writer's cases; complete rupture occurred in but one case; episiotomy saved the perineal raphé in about one-half the cases.

The fœtal mortality in these 37 cases was as follows: six were born dead, and four others died within thirty-six hours succeeding birth. Of those born dead, two were delivered by version; but in both instances the forceps had been employed and life was extinct probably before the operation was resorted to. One died some days before birth, from intrauterine rupture of the umbilical cord. In some instances, the writer cannot escape the conviction that the fœtus was injured by the forceps.

Dr. W. S. Richardson, of Boston, was of the opinion that the occipito-posterior position of the vertex usually underwent anterior rotation, and that remaining with the occiput to either sacro-iliac synchondrosis was very exceptional. When anterior rotation does not occur the sincipital arm of the cephalic lever is on a level with the occiput, and the large fontanelle is easily felt. He was in the habit of applying Simpson's forceps, reversed, effecting flexion of the chin upon the chest, when the vertex was applied to the pelvic floor, and anterior rotation usually followed.

Dr. Reamy thought that twenty per cent. was entirely too high a percentage for occipito-posterior positions. Anterior rotation usually occurs. Anterior rotation occurs in a case of right occipito-posterior position when the left extremity of the sincipital lever ascends the left anterior inclined plane of the pelvis. All he attempted to do with the forceps was to effect anterior rotation when it did not occur spontaneously. Dr. Sawyer's remarks upon the usual error in applying traction were unnecessary, as few obstetricians are such poor mechanics as to pull the head against the pubis. He saw no advantage in Dr. Sawyer's instrument above other instruments already in existence. Still it was the inalienable right of every obstetrical teacher to invent a new forceps, if he so desired.

Dr. Howard suggested the application of Tarnier's forceps in these cases.

Dr. Reamy thought that Dr. Smith's method of using the forceps as a lever and tractor rendered the ordinary instrument safer than Tarnier's.

Dr. Johnson, Dr. Howard, and **Dr. Engelmann** thought that more depended upon the hand at the end of the instrument than upon the instrument itself.

Dr. Albert H. Smith criticised the plate from Smellie, by which Dr. Sawyer illustrated his paper. The woman was completely eviscerated. Naegelé said that out of 1254 cases of vertex presentation, but 17 were cases of occipito-posterior position. Dr. Sawyer's experience must have been accidental.

As regards the etiology of occipito-posterior position, he thought the posterior inclined plane was deficient or defective where the head did not rotate anteriorly. Before the head was engaged, he tried to remedy the evil by placing the woman in a knee-elbow position, and using the force of gravity. He had never been able to effect rotation in the brim with forceps or his hands. In cases of deformed pelvis, he flexed the head on its parietal axis, by Davis's forceps much in the manner indicated by Dr. Richardson.

Dr. Sawyer was grateful for the discussion which his paper had elicited. In regard to Dr. Smith's criticism of Smellie's plate, he had the temerity to say that Smellie had attended many meetings where there was just as much tendency to digression as in the present meeting. He had left out those intestines purposely. The members would have immediately commenced discussing gall-stone, enteritis, and dyspepsia!

Afternoon Session.

The President, after calling the meeting to order, introduced

THE PRESIDENT-ELECT,

Dr. Howard, of Baltimore, who, after a brief address, took the chair.

Dr. George J. Engelmann, of St. Louis, then read a paper entitled

A RARE AND FATAL FORM OF SEPSIS WITHOUT SYMPTOMS.

He related the histories of four cases of fatal sepsis without symptoms.

Case I. An old gentleman, a relative of the writer's, was in Langenbeck's clinic, and attended by the best men in German medicine. He failed steadily, and they could detect nothing abnormal. The autopsy revealed an abscess in the prostate, and one kidney and ureter floating in pus. A slight diarrhœa was the only symptom in this case.

Case II. A child, after recovery from diphtheria, after apparent convalescence, died of sepsis without symptoms, save a slight diarrhœa.

Case III. A puerperal woman died of septicæmia without symptoms, save a slight chill and fever the day before her demise.

Case IV. occurred in a woman suffering from pelvic cellulitis and uterine disease.

The only two symptoms in all these cases were very slight diarrhœa and a feeling of mental anxiety, evincing itself in gaiety or depression.

The following papers were then read by title: *The Physiognomy of the Vulva as a Sequence of Anal Disease, and the Cause or Sustaining Cause of Uterine Disease*, by Dr. Isaac E. Taylor, of New York; *The Early History of the Treatment of Vesico-vaginal Fistule in the United States, and the Statistics of the Several Modes of Operating*, by Dr. Nathan Bozeman, of New York; *Periodical Symptoms in Uterine Disease*, by Dr. George J. Engelmann, of St. Louis; *Contributions to the Topographical and Sectional Anatomy of the Female Pelvis*, by Dr. David Berry Hart, of Edinburgh; *Fibro-myomata and Fibro-cystic Myomata of the Uterus—their Diagnosis, Prognosis, Pathology, and Treatment, with Cases and Specimens*, by Dr. R. Stanbury Sutton, of Pittsburg; *On the Ring of Bandl*, by Dr. William T. Lusk, of New York.

A vote of thanks was tendered the local Society and members of the Chicago medical profession, and the Society then adjourned to meet in Washington on the third Tuesday in September, 1885.

OBSTETRICAL SOCIETY OF PHILADEDPHIA.

Stated Meeting, October 2, 1884.

The President, R. A. Cleemann, M.D., in the Chair.

Dr. B. F. Baer exhibited specimens from a case of

SUBMUCOUS AND INTERSTITIAL FIBRO-CYSTIC TUMOR OF THE UTERUS, IN WHICH HEMORRHAGE WAS ABSENT.

Mrs. H., æt. 36 years, has had two children, the youngest being twelve years of age. Four years ago she suffered from severe metrorrhagia, which was caused by a submucous and interstitial fibroma of the uterus. This was removed, and, after passing through a severe attack of periuterine inflammation, she recovered. After the removal of the growth, her catamenial periods became regular in time and quantity, and she remained well until about one year ago, when she began to have a very fetid, watery discharge in the intermenstrual periods, with sacral pains and uterine tenesmus. On July 17th, her physician, Dr. R. Armstrong, of Lock Haven, requested me to see her with him, when examination showed the cervix to be twice its normal size, with swollen and gaping lips, making the os and cervical canal quite patulous. The body of the uterus was as large as at the third month of gestation, but it was not symmetrically developed, being larger on the left than on the right side. The left broad ligament was indurated, and seemed to be the seat of an old inflammatory process. Pain had been present in this region since the operation. The sound met with an obstruction at the internal os, and was deflected to the right, passing to a depth of nearly four inches. It could be made to pass around a mass of some kind in the cavity of the uterus, giving an indistinct sensation of the presence of an abnormal growth. I expressed the opinion that although there had been no hemorrhage, there was a submucous or polypoid fibroma present, and advised its removal. Seven tents were introduced, and twenty-four hours later ether was administered, when, with the assistance of Drs. Armstrong, Walls, and Ball, I proceeded to remove the tents and explore the uterine cavity. On passing my finger within the internal os, I detected a smooth, oval-shaped mass of tissue resembling, in consistency, the inverted uterus enlarged to about double its normal size. I carried my finger up with some difficulty, and found the base or attachment of the tumor to be located at the fundus of the uterus, where it was narrowed somewhat, forming a sort of pedicle. The tumor felt rather soft for a fibroma, and this, together with its shape, caused me to suspect inversion of the uterus, and when I remembered that the organ is sometimes inverted by the operation for the removal of an interstitial fibroid, which requires great traction, as was necessary in this case four years previously, I became much more anxious to investigate fully before attempting to remove the mass. By very careful and thorough bimanual manipulation, I convinced myself that the uterus was not inverted; there was no indentation anywhere on its surface. I therefore felt warranted in adjusting the wire of an écraseur around its attachment, and proceeded to tighten it, but the traction and manipulation which were necessary in placing the noose, broke the surface of the tumor and exposed a peculiar-looking membrane, which resembled the peritoneum. I was alarmed at this, fearing that I had really to deal with a partially inverted womb, and that the smooth membranous surface was the peritoneum. I removed the écraseur, the wire of which had broken, and then passed one finger into the bladder and another into the rectum, for the purpose of determining more certainly the condition of the peritoneal surface of the uterus. Now, while an assistant made traction on the supposed tumor, I was enabled to satisfy myself fully that the organ was not inverted. I then removed the tumor by enucleation.

As you will see in the specimen which I present, there are a number of cysts. These cysts contained the semi-opaque coagulable fluid usually found in fibro-cysts, and gave to the tumor its softness, which, together with its shape and the appearance of the cyst-walls when its surface was broken, made it resemble an inverted uterus. The patient made a good recovery.

The case is very unusual for the reason that, although the uterine cavity was distended by a large submucous tumor, which was becoming polypoid, not the slightest hemorrhage resulted. I do not remember to have met with a similar case. I have, however, met with cases of small polypi in which there was no hemorrhage; two, indeed, were discovered after the menopause had been fully established, and are worthy of record, because of the reflex symptoms which they seemed to induce.

Dr. Baer then reported a case of

UTERINE POLYPUS IN WHICH HEMORRHAGE WAS ABSENT, BUT WHICH GAVE RISE TO SYMPTOMS OF PREGNANCY.

Mrs. C. was forty-six years of age; she had been married twenty years, but had never been pregnant. The menopause had occurred one year previous to the date at which I saw her. Soon after the cessation of the catamenia her abdomen began to enlarge, and she thought she was pregnant. Various irregular reflex symptoms of pregnancy developed, and she became so convinced that she engaged the services of an accoucheur and nurse, and went into labor in due time. Her physician, my friend, Dr. John H. Musser, was unable to discover the least physical sign of gestation, nor anything else which should give rise to the almost perfect labor-like pains which she seemed to have at irregular intervals. He informed her that she was not pregnant. She became indignant, and asked him to call another physician to confirm what he said. He consented, and requested me to see the patient. I excluded pregnancy, but found in the cervical canal a fibrous polypus not larger than an ordinary marble. This I at once removed, and the pains and other signs of gestation immediately subsided.

This was one of the cases of spurious pregnancy which we sometimes see developed in a sterile woman about the period of the menopause. The desire for offspring is strong. The cessation of the menses starts the delusion, and it is kept in existence and made to grow by being constantly fed by a morbidly susceptible nervous system. But there was a local irritation here to account for the reflex symptoms of gestation, as I believe there is in the majority of these rare and interesting cases. It is three years since this patient was under treatment, and there has been no return of the reflex disturbance.

Dr. Baer also reported a case of

UTERINE POLYPUS IN WHICH HEMORRHAGE WAS ABSENT, BUT WHICH SEEMED TO INDUCE SEVERE REFLEX HEAD SYMPTOMS.

Mrs. K., æt. 52 years, has had two children, the youngest being twenty-five years of age. The menopause had occurred four years previously, and she did not complain of the slightest local symptom of uterine disease; but the flushings and other nervous manifestations which often attend this period had not yet subsided. The disturbances, however, which concerned her most, and for which she consulted a doctor, were pain and pressure, of a very aggravated form, on the top of the head. Many remedies had been prescribed for the relief of this, but with only temporary benefit. A uterine examination was made, and a polypus resembling in size a small walnut was discovered in the canal of the cervix. This was removed some months ago, and I believe the patient has been relieved of the headache and other reflex symptoms which seemed to result from its presence.

The influence which these small growths have on the nervous system is something remarkable, but the absence of hemorrhage, especially in the first case, is more notable when we recall its size and location, and remember that death has resulted from the hemorrhage caused by polypi not larger than a pea, as recorded by Locock, Klob, Courty, and others. I have no doubt some of you can recall cases, as I can, in which death would doubtless have resulted from the hemorrhage produced by a small polypus, had not the cause of it been removed. The following is an illustrative case.

UTERINE POLYPUS ATTENDED WITH GREAT HEMORRHAGE.

Mrs. P. consulted me on September 20, 1883. She was thirty years of age, and had been married eight years, but had been sterile. Two years ago she began to suffer from menorrhagia, with uterine tenesmus. Soon after she lost blood at irregular intervals and in large quantities; during the past year she had not often been free from metrorrhagia, or a profuse and offensive leucorrhœa. The hemorrhage would sometimes last a whole month continuously, and leave her so prostrated and anæmic that it was thought she could not rally. She had lost thirty pounds in weight, and was blanched in appearance.

I will confess that I was surprised to find, on examination, that my patient had a polypus not larger than a Concord grape; the mucous membrane of the cavity of the uterus was hypertrophied and granular. The pedicle was attached far up in the cavity of the uterus. The tumor was removed by means of the curette, and the patient now menstruates regularly. This case contrasts strongly with the three others in its hemorrhagic character, and it presents the history commonly met with in these growths. There is no doubt that the location of the tumor has great influence in the cessation of hemorrhage in these cases, much greater than the size of the growth; but much also depends upon its histological character and the condition of the endometrium. Thus, when a fibroid tumor, or polypus, is situated in the cavity of the uterus proper, more hemorrhage is likely to result than when it grows from the tissues of the cervix, because if located in the former position it is often of the muscular variety, and, therefore, more vascular, and the mucous membrane of the uterine cavity, which is the direct source of the hemorrhage, is usually hypertrophied and granular, as in the last case narrated. Moreover, when the cavity of the uterus is the seat of a polypus, the uterine and pelvic circulation is stimulated by its presence, somewhat in the manner in which it is effected by the presence of a fecundated ovum which has been blighted; it is a foreign body, and the uterus tries to expel it, but by the effort the circulation is excited in that direction, and hemorrhage results. My first case, however, furnishes an exception to the rule that hemorrhage attends when the tumor occupies the uterine cavity, but as tenesmus was present, it is possible that hemorrhage might have occurred later had the tumor been allowed to remain.

Dr. Goodell remarked that the question of hemorrhage in polypi is a curious one. It seems less likely to occur when the tumor is in the body of the uterus, and checks the amount of circulation by exciting tonic contractions, than when it is protruding into the cavity like the clapper of a bell. In one case, in which the hemorrhage had produced extreme anæmia, dialyzed iron was given to relieve the anæmia, and it also checked the hemorrhage. In another case, operation was refused, and death resulted from hemorrhage three days after the visit.

Dr. Wm. Goodell, then made some remarks on

RAPID DILATATION OF THE UTERINE CANAL.

For many years, he said, I enlarged or straightened the uterine canal, according to the requirements of the case, either by tents or by Sims's operation, and preferably by the former. Having had several serious warnings in the shape of inflammations following these operations, I began to perform them with fear and trembling. Yet nothing very untoward happened until the year 1878, when two grevious mishaps befell me.

A charming young lady, the centre of a large circle of admiring friends, came from a neighboring State to consult me about a dysmenorrhea, which grew worse and worse every year. The cervix was so bent forward, and the stenosis of its canal *per se*, as well as by angulation, was so marked that I unhesitatingly performed Sims's operation. Within a few days septicæmia set in, soon the parotid glands swelled up, and on the ninth day she died. True it is, that, at the same time, two piles also were tied, but this latter operation I had, and have, performed so many times with impunity that I was, and am still, disposed to attribute the blood-poisoning to traumatism of the cervix, and not to that of the rectum. Hardly had I time to recover from this bitter blow, when a case of exhausting menorrhagia fell into my hands. The lady was the young bride of a husband well advanced in life. I dilated the cervical canal with tents, and curetted many vegetations from the endometrium. A furious peritonitis set in, and in less than three days this young wife lay dead, and the husband was frantic with grief.

The anguish which I felt at the death of these two ladies, and the heartrending scenes which I witnessed at their bedsides, scenes which I cannot now recall without emotion—urged me to try any remedy that gave promise of efficiency combined with greater safety. In the search for a substitute, I tried rapid dilatation, which Ellinger and others had proposed, and since that year —that *annus irae*—I have not once performed Sims's operation for dysmenorrhœa, and I have so narrrowed the field for the use of tents that I now very rarely resort to them. In short, rapid dilatation has proved, in my hands, so safe and so efficient an operation that I wish to urge its claims before this Society.

The instruments which I would recommend are two Ellinger dilators of different sizes. These are the best on account of the parallel action of their blades. The smaller of these dilators has slender blades, and it pilots the way for the other, which is more powerful, and with blades that do not feather. I have had the beaks of these dilators changed from an obtuse angle to a slight curve so that it can be reversed within the womb. The light instrument needs only a ratchet in the handles, but the stronger one should have a screw with which to bring the handles together. Lest the beak should hit the fundus uteri, and seriously injure it when the instrument is opened, the blades are made no longer than two inches, and are armed with a shoulder which prevents further penetration. The larger instrument opens to an outside width of one and a half inches, and it has a graduated arc in the handles by which the divergence of the blades can be read off. The instruments which I now exhibit to you, and which I can recommend highly, have been made under my supervision by Messrs. J. H. Gemrig & Son, of this city.

In a case of dysmenorrhœa, or of sterility from flexion or from stenosis, my mode of performing the operation of rapid dilatation is as follows: The patient is thoroughly anæsthetized, and a suppository containing one grain of the aqueous extract of opium is slipped into the rectum. She is then placed on her back, and drawn to the edge of the bed, the knees being supported by her nurse. The light must be good, so that the operator may clearly see what he is about. By the aid of a strong tenaculum, applied through my bivalve speculum, the cervix is steadied, and the smaller dilator is introduced as far as it will go. Upon gently stretching open that portion of the canal which it occupies, the stricture above so yields that when the instrument is closed it can be made to pass up higher. Thus by repetitions of this manœuvre, little by little, in a few minutes time a cervical canal is tunnelled out, which before could not admit the finest probe. Should the os externum be a mere pinhole or be too small to admit the beak of the dilator, it is enlarged by the closed blades of a straight pair of scissors, which are introduced with a boring motion. As soon as the cavity of the womb is gained, the handles are brought together. The small dilator being now withdrawn, the larger one is introduced, and the handles are then slowly screwed together. If the flexion be very marked, this instrument after being withdrawn should be reintroduced with its curve reversed to that of the flexion, and the final dilatation then made. But in doing this, the operator must take good care not to rotate the womb on its axis, and not to mistake the twist for a reversal of the flexion. The ether is now withheld, and the dilator kept *in sitû* until the patient begins to flinch, when the instrument is closed and removed. A few drops of blood trickle out of the os. Occasionally a slight flow of blood will last for several days after the operation, simulating the menstrual flux. Often this flux is precipitated or renewed, if the operation follows or precedes it too soon. The best time for dilatation is, therefore, midway between two monthly periods.

When compared with the cutting operation this one looks like rough usage, yet the woman rarely needs more than two or three suppositories, and complains merely of soreness for one or two days. To forestall any tendency to metritis, she is kept in bed until all tenderness has disappeared. Pain is met by rectal suppositories of opium, and by large poultices laid over the abdomen. I have seen slight pelvic disturbance arise from this operation, but it has always been readily controlled and has not given any alarm.

In the great majority of cases I dilate the canal, not to the fullest capacity of the instrument, but to one and a quarter inches. Sometimes in an infantile cervix which does not readily yield and might give way, the handles are not screwed down more than three-quarters of an inch or an inch. Tearing of the cervix has happened in two of my cases. In one, that of a virgin, the cervix was split half-way down to the vaginal junction. The other case was that of a multipara, whose uterine canal had been nearly closed up by applications of nitrate of silver, made by her physician with the view of curing what he supposed was an "ulceration of the os," but which was a bilateral laceration. The tissues, rendered cicatricial and brittle by the caustic, were torn by the dilator for about half an inch on the right side also. Here the hemorrhage was free enough to need styptic applications and a tampon. I could have stopped it by wire sutures, but this was not done, as it would have defeated the object of the operation.

For slight dilatations, such as for the office treatment of anteflexions and of stenosis, or for the introduction of the curette, or of the applicator armed with cotton, the more delicate instrument is quite strong enough, and an anæsthetic is not needed. Sometimes in a very sharply anteflexed womb the dilator cannot be made to pass the os externum. This difficulty is overcome by first passing in a surgeon's probe, and then along it, as a guide, the dilator. After a forcible dilatation under ether, the cervical canal rarely returns to its previously angular or contracted condition. Since lateral extension of elastic bodies antagonizes their length, the cervix shortens and widens, and the plasma provisionally thrown out by the submucous lesions sustained by the dilated part, serves still further to thicken and stiffen its tissues. In other words, the stem-like neck of the pear-shaped womb is shortened, widened, strengthened, and straightened. Hence, for straightening out anteflexed or congenitally retroflexed wombs, and for dilating and shortening the canal in cases of sterility or dysmenorrhœa, arising from stenosis or from a conical cervix, the dilator will be found a most efficient instrument. In its results it is not infallible. I have twice been obliged to repeat the operation, and would like to have done so in several other cases, had the women permitted it. In a very few instances I have been forced, as a final resort, to nick a pinhole os externum, but I had not then learned how far I could safely stretch open the uterine canal, and the operation of dilatation was not so efficiently performed by me as it is now through a larger and riper experience.

But it is not to cases of dysmenorrhœa that I limit the operation of rapid dilatation. As stated before, I use it to stretch open the canal for the admission of the curette and of sponge-tents, or for the purpose of making application to the uterine cavity. In cases needing irrigation of the uterine cavity, I first dilate the canal with this instrument and introduce the nozzle of the syringe between the separated blades. This gives a free avenue for the escape of the liquid, and robs of its dangers this form of intrauterine medication. I also resort to the dilator in order to explore the womb with the finger. For instance, in any given case of menorrhagia in which a polypus or some other uterine growth is suspected, instead of using tents, I put the woman under an anæsthetic, and after the rapid dilatation of the cervical canal to the utmost capacity of the instrument, viz., one and a half inches, am enabled to pass my finger up to the fundus. This is accomplished either by drawing down and steadying the womb by a volsella forceps, or, in thin subjects, by forcing the womb down upon the finger by suprapubic pressure on its fundus. In this way I have over and over again, at one sitting, discovered a uterine growth, twisted it off, and removed it. Usually in these cases I experience more difficulty in removing the polypus or other growth through the small canal than in twisting it off from its uterine attachment. It often has to be wire-drawn before it can be removed, and sometimes the os uteri has needed a few nicks. Usually, when the menorrhagia is free, the cervical tissue is so loose that there is no difficulty in the introduction of the index finger up to the fundus, but sometimes only its tip can be made to pass the os internum. Yet even this limited degree of penetration is commonly quite enough to decide the presence of an inside growth. If it is not enough, I invariably search for a growth with a small pair of fenestrated forceps, and I have repeatedly seized and removed one, the existence of which was merely suspected. After such operations the uterine cavity is thoroughly washed out with a solution of carbolic acid, or of potassium permanganate.

I am sorry to say that I have not kept full records of all my cases of rapid dilatation. For instance, I have never recorded those office cases of dilatation in which ether was not given. Nor has any note been made of cases in which dilatation was performed under ether for curetting, for digital exploration of the endometrium, or for the removal of uterine growths. I have tabulated merely cases of dysmenorrhœa in single or in married women. In the married, with but three exceptions, which will be noted, painful menstruation was accompanied by sterility.

Including all the cases of dilatation performed under ether, I must have had over three hundred. I have limited myself to these cases because the use of an anæsthetic implies full dilatation—one in which serious injury, if ever, would most likely be sustained. Yet there has not been a death or a case even of severe inflammation in my practice, and the results have been most satisfactory, far more so than when the cutting operation was performed by me. The following are the statistics of my cases of dysmenorrhœa:

Unmarried, ...	80
Married, ...	88
	168

Of the unmarried eighteen were unheard from after the operation, leaving sixty-two from which any data could be obtained. Of these thirty-eight were cured, seventeen more or less improved, and seven not improved at all. Of the seven that were not benefited by the operation, five subsequently had their ovaries removed—one of them by another physician and four by myself—of the latter one died. In each one the ovaries had become so altered by cystic or by interstitial degeneration as to make the dysmenorrhœa otherwise incurable. Of the seventeen improved, there was one on whom oöphorectomy was also performed, for although the dysmenorrhœa was greatly relieved by dilatation, ovarian insanity and menorrhagia were not. The operation was a successful one, and my patient was not only cured of her hemorrhages, but she regained her reason. Out of these cases, the majority, although not wholly cured, were greatly improved. For example, one of them was formerly bedridden during the whole period of her menstrual flow, and had then to take large doses of morphia. She also suffered at those times from hematemesis and epistaxis. Since the operation she experiences pain for merely two hours, needs no anodyne, and has lost her ectopic hemorrhages. Her gain in health and flesh has been great. Another one, who was wholly crippled by her sufferings, and made nervous by the dread of them, is now a busy nurse. For one hour at every period she suffers a great deal, but she is too much afraid of taking ether to have a second dilatation performed.

Of those cured, two had Sims's operation performed previously without benefit, and were afterwards dilated; two were dilated twice before a cure could be brought about. The history of several cases merits more than a mere allusion. The sufferings of one of my patients at every monthly period had always been great; but while she was at a boarding-school they grew so intense as to cause furious delirium at those times. This finally developed into permanent insanity with suicidal impulses. While in this condition she was placed in my hands. After rapid dilatation of the cervical canal the dysmenorrhœa wholly disappeared. The exemption from pain toned down some of her more extravagant delusions, but she did not wholly regain her reason until a few months afterwards. She is now free from all menstrual pain, and in complete possession of her mental faculties.

A Hebrew lady, whose health had suffered from dreadful dysmenorrhœa, was improved so much at one sitting that her physician and friends were amazed. Not long afterward he asked me to perform the same operation upon another one of his patients, who was, if anything, worse. Her sufferings were so intense that he wrote, "I fear that another period might kill her," and urged an immediate operation. The cervix in this case was conical and very dense. Fearing a tearing of the parts, I screwed the instrument slowly up to one and a quarter inches, and kept up this amount of dilatation for some twenty minutes. The cervix sustained no injury. Thr canal has since remained patulous, and she is free from all menstrual pain.

Of the married, 53 were heard from. Of these, 39 were cured, 10 improved, and 4 unimproved. Out of these 53 cases, 9 were not in a condition to conceive, 3 of them from fibroid tumors, 2 from destructive applications of nitrate of silver to a lacerated cervix, 3 from being over forty-one years of age, and 1 from being a widow. This leaves but 44 capable of conception, and of these 8, or a little over 18 per cent., became pregnant. But the ratio is in fact larger, for several of my patients, fearing pregnancy, employed preventive measures after the operation. Then again, I believe that others who consulted me merely for painful menstruation have not reported their subsequent pregnancies. For instance, two months ago I learned, through the merest accident, that the wife of a clergyman, whose cervical canal I dilated six years ago, has since been making up for lost time by giving birth to twins within a year after the operation, and later to several other children. She had been married eight years before she came to me, and had had her cervical canal dilated by tents and slit up with Peaslee's metrotome by a skilful surgeon. I have also had several cases of pregnancy following office dilatations of the uterine canal in which ether was not given, and consequently the lumen of the canal was not much enlarged. But such slight operations were not deemed worthy of record, and they, therefore, have no statistical value.

DR. HARRIS inquired about the danger of lighting up a former ovaritis by dilatation. The operation is successful, but that is its danger.

DR. GOODELL has not hesitated to operate, but always uses opium first, and by the time the operation is over the patient is under its influence. He keeps them in bed and under opium until all tenderness has passed entirely away.

NEWS ITEMS.

MONTREAL.

(*From our Special Correspondent.*)

FAREWELL HONORS TO DR. OSLER.—When it was definitely known that Dr. Osler was to leave Montreal on Monday, October 11, for Philadelphia, a committee of medical men undertook the preparations necessary to give a last opportunity to the profession to meet him, as a fellow-citizen, in social gathering. Though the time allowed this was extremely brief, the occasion was a great success. By far the larger part of the English-speaking medical men of the city attended, while the French-speaking portion of the profession was represented by some of its ablest members. But there was a gloom resting like a cloud over the whole gathering; those jolly spirits that usually keep the table amused were subdued, and many were evidently struggling with deep emotions.

The Chairman, Dr. R. P. Howard, after the usual preliminary toasts, proposed that of "Our Guest." He gave a masterly analysis of Dr. Osler's work and character as a medical and scientific investigator and of his qualities as a man. He referred to his work on the relations of endocarditis, by which alone he had made himself and Montreal famous; and this was but one instance out of many. As a teacher of medical students and as a teacher of medical practitioners, by his exhibition and explanation of pathological specimens at the meetings of the Medico-Chirurgical Society, he had accomplished a valuable work during the past ten years. Brief reference was made to his kindness, his tendency to attribute only good in others, his peace-making disposition, and much more which needed no lengthy treatment before an audience who responded deeply to the sentiments he expressed.

Dr. Osler, on rising to reply, was overcome with emotion. He thanked those present from his heart for this demonstration of their regard. Perhaps on this occasion some allusion to his career might be pardoned. Whether it was true or not that certain bacilli were altered in character by different surroundings, it was so of men, and he was an example of that fact. His life had been profoundly modified by three men—one, an early teacher, who gave him his preliminary education; another the late Dr. Bovell, formerly Professor of Physiology in Toronto; and the third Dr. Howard, of Montreal. He then alluded to the kindness he had always experienced at the hands of the profession in Montreal. He had been conscious of the imperfections of his teachings; he knew he had been undertaking too much. He referred to the struggle it had been to him to decide for Philadelphia. He could say, on leaving Montreal, like one of old, that he had "come in among them with a staff," and now he left "with two bands"—not bands laden with silver or gold or bank stock, but with two bands of good friends.

The toast of *The Medical Profession* was responded to by Drs. Fenwick, Hingston, Armstrong, and others. Dr. Hingston referring to Dr. Howard's remark that many would now be singing in their hearts, "O Willie, we have missed you," asked, "Would he no' come back again?" The hope was frequently expressed during the evening that Dr. Osler might yet in the future be induced to return to Montreal.

The Lay Medical Press was responded to by Drs. Ross, Roddick, Cameron, La Chapelle, and Mr. Richard White. Dr. Roddick remarked that Dr. Osler had probably contributed more to the medical press of Canada than any other man.

The Veterinary Profession was responded to by Professor McEachern, the head of the Montreal Veterinary College. He said that Dr. Osler had been so closely identified with their work that much of the reputation which their school had at home and abroad was due to him. His leaving Montreal was to them an enormous loss.

After other toasts, Dr. Mills, Dr. Osler's successor in the Chair of Physiology, proposed "The Committee." He remarked that he did so with much pleasure, inasmuch as this dinner, which they owed to the Committee's exertions, was specially suitable to the present occasion, giving, as it did, the opportunity of meeting Dr. Osler as a man, and seeing the exhibition once more of those qualities which had so endeared him to them all. In his speech that evening he had shown the same modesty, the same kind consideration for others, as of old and ever. Dr. Osler's kindly allusions to himself and others who now were trying to perform his duties in McGill College was an evidence of this. One quality which had not been specially referred to he would mention—that power of hope-inspiring. What student had ever entered Dr. Osler's office when Registrar without feeling on leaving that he "could add a cubit to his stature?"

All the speakers expressed pride at Dr. Osler's advancement, sad as was the separation that it caused.

The students of the Montreal Veterinary College presented Dr. Osler the day before his departure with an Address and a valuable testimonial.

The students of McGill College, on Friday evening, marched in a body to the station and gave Dr. Osler a hearty send-off with songs and ringing cheers.

Probably no public man has ever left Montreal whose departure has been more sincerely regretted by all with whom he was brought in contact.

THE NEW YORK STATE MEDICAL ASSOCIATION.—The first annual meeting of this Association, which was organized last winter to maintain the harmonious relations with the profession at large, which had been disrupted by the New York State Medical Society by the adoption of the New Code, will be held at the Murray Hill Hotel, Park Avenue, Fortieth and Forty-first Streets, New York City, November 18th, 19th, and 20th.

The programme, which has just been issued, contains a list of forty-three papers to be read, and includes the names of many of the most prominent men in the State. Dr. Henry D. Didama, of Syracuse, is the President of the Society.

THE PATHOLOGICAL SOCIETY OF PHILADELHIA.—Dr. Delafield, of New York, will read a paper on Bronchopneumonia, at the next semi-annual meeting of the Pathological Society, to be held at the Hall of the College of Physicians, Thirteenth and Locust Streets, October 23d, at 8 o'clock P.M. The profession are invited.

CLOSING OF GOVERNMENT QUARANTINES.—The "Delaware Breakwater," "Cape Charles," "Sapelo," and "Tampa Bay" quaratine stations will be closed on the 31st inst.

INSPECTIONS DISCONTINUED.—The Sanitary Inspectors at Liverpool and London, Eng., and at Nogales, Arizona, have been discontinued. Those in Italy and France will be continued on duty for the present,

THE INTERNATIONAL MEDICAL CONGRESS IN 1887.—The next International Medical Congress, says the *Gazette Médicale de Paris* of Sept. 13th, will be held in Washington; but the choice offers some difficulties. Germany has a right to a Congress. "If the Congress," said Professor Virchow, "wishes to go to Berlin, the Medical Society of that city is disposed to give to all the members a reception worthy of them and of itself. We will, perhaps, not do so well as the Danish physicians, but we will do our best, and as cordially as possible. We think that no nation will refuse the hospitality which we are happy to offer."

M. Trélat made an objection which strongly contributed to the rejection of this proposition: "Assuredly," he said, "Berlin is a great scientific centre, where there are many eminent men. No doubt the reception would be worthy of the physicians who would give it, and of those to whom it would be given. But, besides these, our *confrères*, men of science and tact, having in view only the interest of our profession, there is a great city, a population which is, perhaps, not animated by the same sentiments, and one can understand that we, French physicians, might apprehend finding there on every hand, something which might recall our recent sorrows."

YELLOW FEVER.—Forty-two deaths from yellow fever occurred at Havana during the month of September, out of a total mortality of 503 deaths. Fifteen of these were in the Military Hospital and the remainder among private persons. Eight deaths from yellow fever occurred during the first week of the present month. One case of yellow fever developed on the bark "Wm. Fisher," from Aspinwall, which vessel was sent to Ship Island because of reported Chagres fever on board.

DANGER OF CHOLERA IN CUBA.—Sanitary Inspector Burgess of the Marine Hospital-Service, stationed at Havana, states, that "this place is now much exposed to having cholera brought here by the Spanish mail steamers from Cadiz, which place is in very frequent communication with all Mediterranean ports. The foreign minister (Ministera de Ultramao) in Spain has entirely ridden over the Superior Board of Health of this Island and ordered the steamers of that particular line (the most dangerous of all) be given free pratique at once on their arrival, suffering no detention here whatever. This arbitrary and despotic order gives great dissatisfaction, as all other European vessels, even those from England, are put under more or less quarantine observation."

THE CHOLERA IN ITALY.—The U. S. Consul at Rome forwards a statement of the cholera epidemic in Italy for the week ending September 16th, showing 5293 cases, and 2812 deaths. He says, as in the preceding week, the disease was most violent in villages of the Province of Cunea, in Piedmont; at Spezzia, in Province of Genoa; in villages in the Province of Bergamo, in Lombardy, and especially in the city of Naples. The death-rate is about 52 per cent. and is greater outside of Naples than in that city.

THE REPORT OF THE MARSEILLES CHOLERA COMMISSION.—The Marseilles correspondent of the London *Times* telegraphs that the Commission appointed for the purpose of investigating the mode of action of cholera and its method of propagation, namely, MM. Sicard, Taxier, Loucel, Livon, and Chareyre, draw the following conclusions:

"1. The cholera is transmissible to the rabbit, as demonstrated by injection into the veins, of the blood of a cholera patient at the algid period. The rabbit died in twenty-four hours, with lesions entirely like those of cholera.

"2. By cultivation, this blood after a few hours loses its infectious properties.

"3. Injections of choleraic blood in the period of reaction, or a very advanced algid period, produce no effect.

"4. The perspiration of a cholera patient, injected info the veins, does not transmit cholera.

"5. The stomachic or intestinal dejections, or the gastro-intestinal contents (this last full of comma-bacilli), may, after filtration, be injected with impunity into the cellular tissue of the peritoneum, the windpipe, the intestines, the rectum, and even into the blood.

"6. Comma-bacilli taken from the intestines of a cholera patient may be introduced into the intestines of a rabbit, and multiply there for more than eleven days, without producing any choleraic symptoms, and without necropsy revealing the anatomo-pathological lesions characteristic of cholera.

"7. There is thus every proof of the non-specificity of the comma-bacillus. We experimented on bacilli taken from the intestine, and with dejections kept from two to twelve days, the results being always negative. Everything also proves that this bacillus does not produce in the intestine toxical ptomaines which would be the cause of poisoning—namely, the lesion of the blood. The inference from more than fifty of these experiments is, the non-contagiousness of cholera, which we maintained from the very opening of the discussions.

"8. The minute examination made by us of the heart and large venous vessels of cholera patients enables us to affirm that there is no phlebocarditis in cholera, as alleged by Morgagni, and still maintained by many enlightened physicians.

"9. Bulbar and medullary lesions, or those of the solar plexus, appear to us to be all secondary lesions.

"10. In our opinion, the initial lesion of cholera takes place in the blood.

"11. It essentially consists in the softening of the hæmoglobin, which makes some corpuscles lose first their clear shape, the fixity of their form, and the faculty of being indented. These corpuscles adhere together, lengthen out, stick together, and in very rapid cases especially, some are seen which are quite abnormal, while others appear quite healthy.

"12. The entire loss of elasticity of the corpuscles (which is shown by the preservation of the elliptic form when it has been stretched out) is, in our view, a certain sign of the patient's death. To stretch out a corpuscle, it is merely needful to alter the inclination of a plate on which a sanguineous current has been established in the field of the microscrope. The fluid column stops at one point, whereas the rest continues to flow. An elongation of the intermediary corpuscles results, and then a rupture of the column. In the gap thus formed are some scattered corpuscles. If these revert to their primitive form the patient may recover. If they keep the elliptic form, we have seen death follow in every case, even if the patient's symptoms were not serious at the time of the examination of the blood. At the outset and in the rapid cases, which give the clearest results, corpuscles remaining healthy are seen alongside the unhealthy ones, and assume the shapes well shown in heaps of money, or maintain their liberty. When currents are created in the field of observation, the columns of healthy or less unhealthy corpuscles remain stationary, or nearly so; whereas the unhealthy corpuscles flow between the columns or the stationary masses like fluid lava. This we believe to be the characteristic lesion of cholera. By hourly examination of the blood of cholera patients the progress of the malady can be mathematically followed. First some corpuscles are unhealthy, then one-third, then half, then two-thirds, and lastly death supervenes. A very important fact in our view is that all the corpuscles are not simultaneously affected. We debar ourselves from substituting a fresh hypothesis for all those we have overthrown. We confine ourselves to saying that we know better than our predecessors what the cholera is not, but we do not know what ..."—*British Med. Journal*, October 4, 1884.

The Cholera in France.—The United States Consul at Marseilles gives a very interesting account of the cholera epidemic in that city, and the causes which led to its rapid spread. As it is well worth reading, we give a full synopsis of it. After stating that the persistency of the epidemic was the result of the return to the city of a large number of fugitives who, after living a more or less irregular life for a month or more, returned despite the earnest and repeated warnings of the press, and the medical and civic authorities, and reoccupied their badly ventilated and infected homes, the Consul continues: This return of the multitude of destitute fugitives before the real end of the epidemic, has been recognized from the first as one of the most serious dangers to the scourge. Without this influx of new and unacclimated material, it is believed that the malady might be stamped out by the middle of September. How long it may be prolonged by the returning unfortunates, the event only can determine.

The Result of Hospital Treatment. At the beginning of the epidemic, the vacant Imperial Chateau Pharo was converted into a special hospital for the treatment of cholera patients. Its location, though central, is on a promontory near the entrance to the old and new ports, and being exposed to the fresh sea breezes, is as favorable as could be desired.

The building is surrounded by a large park. Its spacious saloons and corridors had long been vacant; it was free from contagion, and admirably adapted for the purposes of a special hospital. It is served by a special corps of devoted nuns, trained to hospital duties, and its medical staff has included some of the ablest physicians in the city. With all these circumstances in its favor, the Pharo has achieved the following record from the 26th of June until the 4th of August, the latter date being the latest to which the official record is now accessible:

Total number of choleraic cases admitted, .	503
Remaining under treatment, ...	61
Discharged as cured, ...	166
Died, ...	276

Deducting from the whole number of cases admitted those remaining under treatment at the date of the report from which these figures are condensed, it appears that out of 443 patients 166 were cured and 276 died; a death-rate of 62.4 per cent., which is 10 per cent. higher than the death-rate under similar conditions during the epidemic of 1865. The proportion of deaths to cases in the city at large, that is, the cases treated at the homes of the patients, can probably never be accurately ascertained, in many instances persons cured at their own residences were reported as having been ill with fever or other non-contagious diseases. But the death-rate by "arrondissements," which ranges from 0.62 per 1000 inhabitants in the quarter of the "Palace of Justice" to 5.76 per 1000 in the old, densely built quarter of l'Hotel Dieu, shows conclusively that it is the slums of a city, the narrow noisome streets, lined by swarming tenements, that the Asiatic scourge mainly attacks. In some of the cleaner, wealthier portions of the city subscriptions have been raised for the purpose of igniting large fires, at evening, along the principal thoroughfares, and much of the immunity of certain handsome streets is ascribed to this precaution, though with what justice it would be difficult to say. Great stress is laid by many persons, including some physicians, upon the fact that a great conflagration at Constantinople, some years ago, put an end to a cholera epidemic, even in quarters which were untouched by the fire, but it is difficult to account for this upon any scientific theory as more than a coincidence.

Cholera in Marseilles a Year Ago. Although the fact has not been officially announced, it is now learned, upon authority which seems unquestionable, that the cholera which prevailed in Egypt during the summer of 1883, was imported to Marseilles and caused a number of deaths. During the month of July, last year, the total deaths in this city from intestinal diseases was 253, as compared with 159 for the same month of the preceding year, and this increase probably represents very accurately the number of deaths from choleraic disease. The malady was, however, of a comparatively benign type, and soon yielded to skilful treatment. By a discreet, and, perhaps, justifiable collusion between the mayor, two hospital physicians, and several Sisters of Charity, who acted as nurses, the nature of the disease was concealed, and a cholera panic, with all its deplorable effects upon commerce and general business, was averted. There is no reason to doubt that every possible precaution in respect to isolation of the choleraic patients in the main hospital, burial of the dead, and disinfection of their bedding and effects, was thoroughly enforced; and if this preliminary touch of the epidemic had any substantial effect, it was to suggest the active sanitary measures which were enforced in Marseilles early this summer, and which brought the city to such a complete state of preparation prior to the outbreak of the malady at Toulon.

The Microbe Controversy.—Notwithstanding all the elaborate and faithful observations and investigations which have been and are still being made by physicians of the highest ability and fullest experience, it seems probable that the present epidemic will leave the various disputed points nearly where they were at the beginning of the controversy. It seems impossible for the most eminent authorities to agree upon anything beyond the scope of ordinary observation. At the outbreak of the epidemic, and until the eminent Prussian savant, Dr. Koch, published the results of his observations at Toulon and Marseilles, it was popularly supposed to be settled that the germ of cholera is a microscopic bacillus or microbe, which is generated in great numbers in the intestines of cholera patients, and being expelled thence with the dejections, finds its way into waters, the dust of streets, etc.; and, being thus inhaled or swallowed with food or drink by other persons, transmits the germ of contagion to new cases. But Messrs. Roux and Strauss, two eminent French surgeons, now practising in the hospitals at Toulon, and who studied the disease thoroughly last year in Egypt, have made an official report, declaring that they find the microbe to be the result, rather than the germ, of cholera. In certain "foudroyant" cases (*i. e.*, those in which death comes most quickly, unaccompanied by vomiting or dejections) they have found no microbe at all; while in others, the number of bacilli is in proportion to the duration of the disease.

They state that similar microbes are generated in the intestines by typhoid fever and other zymotic diseases, and that they are found by myriads in water, which, being drunk, does not create cholera. Animals have been fed and inoculated with bacilli taken from the alimentary canal of diseased cholera patients without producing any effect whatever. How much this all proves or disproves, it is not the province of this report to inquire; the report of Messrs. Roux and Strauss is merely cited to show how far from settled are the most fundamental propositions concerning the nature and transmission of the cholera-germ.

(*To be concluded.*)

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FROM JULY 1 TO SEPTEMBER 30, 1884.

BAILHACHE, P. H., *Surgeon.*—To proceed to Delaware Breakwater Quarantine Station as inspector, September 10, 1884; to investigate reported pollution of Potomac River water supply, September 20, 1884.

MILLER, T. W., *Surgeon.*—Granted leave of absence for fourteen days, July 10, 1884; detailed as President of Board of Examiners, September 2, 1884.

WAYMAN, WALTER, *Surgeon.*—Detailed as member of Board of Examiners, September 2, 1884.

LONG, W. H., *Surgeon.*—Granted leave of absence for twenty days, July 30, 1884.

PURVIANCE, GEORGE, *Surgeon.*—Detailed as recorder of Board of Examiners, September 2, 1884.

STONER, G. W., *Passed Assistant Surgeon.*—To proceed to Lewes, Delaware (Delaware Breakwater), as inspector, July 25, 1884; to act as Quarantine Officer at Delaware Breakwater, July 31, 1884.

FISHER, J. C., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, August 21, 1884.

GOLDSBOROUGH, C. B., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, July 12, 1884. Leave of absence extended thirty days on Surgeon's certificate of disability, August 11, 1884. Leave of absence extended thirty days without pay, September 11, 1884.

HEATH, W. H., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, September 8, 1884.

GUITERAS, JOHN, *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, September 24, 1884.

BANKS, C. E., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, August 27, 1884.

BENNETT, P. H., *Assistant Surgeon.*—To proceed to Buffalo, New York, for temporary duty, September 19, 1884.

GLENNAN, A. H., *Assistant Surgeon.*—To proceed to Mobile, Ala., for temporary duty, July 7, 1884.

RESIGNATION.

FISHER, J. C., *Passed Assistant Surgeon.*—Resignation accepted by the Secretary of the Treasury, to take effect September 30, 1884.—August 21, 1884.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 7 TO OCTOBER 13, 1884.

MCKEE, JAMES C., *Major and Surgeon.*—Granted leave of absence for one month, with permission to apply, at Division Headquarters, for one month's extension.—*Par. 1, S. O. 149, Department of California*, October 3, 1884.

HAPPERSETT, JOHN C. G., *Major and Surgeon.*—Will be relieved from duty in Department of the East, and ordered for duty at Willet's Point, New York.

WOODRUFF, EZRA, *Captain and Assistant Surgeon.*—Granted leave of absence for four months.—*S. O. 235, A. G. O.*, October 7, 1884.

LORING, LEONARD Y.—*Captain and Assistant Surgeon.*—From Department of the East to Department of California.

HARVEY, PHILIP F., *Captain and Assistant Surgeon.*—From Department of Dakota to duty in Attending Surgeon's Office, Washington, D. C., relieving Robert W. Shufeldt, Captain and Assistant Surgeon, who, on being relieved, will report to Commanding General Department of Missouri for duty.—*S. O. 237, A. G. O.*, October 9, 1884.

POWELL, J. L., *Captain and Assistant Surgeon.*—Granted leave of absence for one month, on Surgeon's certificate of disability.

SPENCER, WM. G., *Captain and Assistant Surgeon.*—Granted leave of absence for one month.—*S. O. 204, Headquarters Department of the East*, October 8, 1884.

MCCREERY, GEORGE, *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Fort Meade, Dakota Territory.—*S. O. 115, Headquarters Department of Dakota*, October 6, 1884.

TAYLOR, A. W., *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Fort Omaha, Nebraska.—*Par. 3, S. O. 87, Headquarters Department of the Platte*, October 3, 1884.

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ORIGINAL LECTURES.

VERSIONS AND FLEXIONS OF THE UNIMPREGNATED UTERUS.

A Course of Lectures delivered before the Boerhaavian Society.

BY ELY VAN DE WARKER, M.D.,
OF SYRACUSE, N. Y.; FELLOW OF THE AMERICAN GYNÆCOLOGICAL SOCIETY.

LECTURE V.

SYMPTOMS—(*Continued*).

B. Symptoms referred to near parts.

a. An important symptom of versions or flexions of the uterus, especially of the anterior variety, is the bladder disturbance. The most urgent is strangury. The cause may be mechanical. The fundus of the anteflexed organ may impinge upon the posterior vesical wall, and retard its expansion: and act also as a source of continual irritation, thus causing the detrusor vesicæ to make frequent contractions. Dr. James Johnson reports a case of anteflexion in which the mechanical pressure was so great that a catheter was introduced with great difficulty. Hewitt states that the bladder is less disturbed in slight degrees of retroflexion than by the same degree of anteflexion. It is retroversion rather than retroflexion that implicates the bladder, that is mechanically, as the vaginal portion is not dislocated forwards to the same extent in the latter displacement. West, Rockwitz, Kiwisch, Sommer, and Bennet believe that the bladder symptoms may be due to causes other than mechanical. According to Bennet, symptoms of vesical irritation due to pressure are rare, the usual cause being a morbid state of the urinary mucous membrane. Rockwitz believes that the stretching and compression of the neck of the bladder may induce hyperæmia of the vesical mucous membrane, and which is but a part of the congested condition of all the organs in the small pelvis. The degree of the disturbance in micturition would in a measure depend upon the intensity of the hyperæmia present. Skene expresses the opinion that the dysuria of anteflexion is the result of a supersensitiveness of all the pelvic organs. The bladder irritation has also been explained by the pressure and traction exerted upon the centres of innervation by the depressed fundus (Hueter). Now and then the bladder symptoms assume the form of a cystalgia occurring in paroxysms with dysuria. The appearance of ischuria paralytica, or impaired power of the detrusor urinæ, or of the sphincter with incontinence of urine has been recorded (Hueter). In cases in which the moral force of the woman is impaired, hysterical conditions are associated with vesical symptoms, generally in the form of retention. In consequence of the vesical hyperæmia, thickening of the mucous membrance may be developed with impairment of the capacity of the organ, forming a supplemental source of irritation.

Strangury is often noticed in these displacements of the uterus at the menstrual periods. This is sometimes very severe, amounting to an incomplete incontinence. Rarely, this symptom alternates with spasm which is generally temporary and equal in intensity to ischuria. The cause of this form of vesical disturbance is twofold; first, in retroflexion, at the menstrual epochs, the degree of the flexion is increased and the posterior vesical wall drawn backwards proportionally, by which the power of the sphincter vesicæ is more or less impaired, hence the incomplete incontinence; and, secondly, a hyper-sympathy may exist between the bladder and uterus, implicating the sphincter, and hence strangury or ischuria develops. Retarded micturition, according to Sommer, has its origin in displacement of the posterior wall of the bladder by the elevation of the cervix, thus stretching the vesical wall in case of relaxation of the vagina. It may also cause a displacement of the urethra, by which the exit of the urine is rendered difficult or impossible. In recent forward displacements of the uterus the result of corrected involution of the walls of the organ, dysuria and ischuria are common, and which Martin explains by an extension of the inflammation from the uterine neck to the bladder, and to inflammatory infiltration involving the detrusor urinæ. This symptom often develops with great rapidity in these cases, and in retroversion from this cause retention is the usual form for the first 7 to 12 days after parturition. In old-standing versions and flexions from this cause, complications with cystitis, with pus in the urine, have been recorded by Martin.

In rare cases the permeability of the ureters has been impaired by the flexion. This condition has led to enlargement of the ureter and the pelvis of the corresponding kidney and the development of hydronephrosis. Uræmic symptoms have been recorded as the result of this etiological condition. Dr. Thudichum states that a persistent strangury by transferred irritation may cause hypertrophy of the kidneys, and thus lead to permanent urinary symptoms.

b. Symptoms of versions and flexions due to disturbance of the rectum are of great importance. In the first place, defecation may be rendered either painful or difficult by versions or flexions of the uterus in any form. Most authors explain this as the result of mechanical causes. In anteversion, or flexion, it is the vaginal portion, and in backward displacements it is the fundus of the uterus, which is forced against the rectum, and thus places an obstruction in the way of the easy evacuation of the bowels. Experience proves that the retroflexed uterus produces the greatest obstruction to the rectum. Forward or backward flexions of an acute angle, with the uterus inconsiderably enlarged, produce less pressure upon the rectum than an obtuse-angled flexion with the organ hypertrophied. Johnson describes a case in which occlusion of the rectum resulted from the extreme pressure on the rectum. Through the obstruction to the rectum chronic meteorism may result, extreme cases of which are recorded by Kiwisch and Hueter, one of which, described by the latter, had such excessive rumbling in the bowels, day and night, as to disturb those living near the patient. The mechanical retention of the feces may result in tenesmus, and by the strong efforts to evacuate the rectum the versed or flexed condition of the uterus is aggravated. Considerable general disturbance often results from these efforts, such as prostration, trembling, profuse perspiration, and nervous irritability. Simpson noticed prolapsus ani as a result of these irrepressible expulsive efforts, and in a high degree of retroflexion Mannel reported a case of rupture of the rectum. Additional obstruction is sometimes due to swelling of the hemorrhoidal veins, which may rupture and cause severe hemorrhage from the anus. The continual irritation of the rectum may produce catarrh of its mucous membrane, which will be observed as a mucous discharge, or as covering the feces.

Sommer holds the opinion that constipation is not always due to mechanical causes in flexions and versions of the uterus. His reasons for this are: first, there is a considerable space between the uterus and sacrum, which may be filled; secondly, the fecal accumulation in obstinate constipation, lasting from day to day, cannot be influenced by the uterus at all, since the collection of feces occurs higher up in the sigmoid flexure; thirdly, the constipation quite generally continues after the correction of the uterine malposition; and, fourthly, in diseases, especially those with hysterical complications with anæmia, severe constipation is the rule. Thudichum also believes that the constipation of flexions is not due to mechanical causes, but is the result of contraction of the sphincter recti superior, the existence and physiology of which have been elucidated by Velpeau, Houston, Chadwick, and others. This contraction is believed to be the result of nervous irritability. Sommer rationally supposes that the constipation has its site in the sigmoid flexure, rather than the rectum, and probably has its origin in reflex contraction of this portion of the colon, in atony of its muscular layers. Diminished activity of its muscular elements, due to defective nutrition in the chronic anæmia often characteristic of these cases, may have this effect. It is familiar to all that in these cases of constipation the exploring finger finds the rectum distended by fecal masses in its lower portion far below any possible obstruction by the displaced uterus. Want of muscular power in the rectal muscles caused by defective innervation is also a frequent element in the constipation. By the distention of the sigmoid flexure, pressure may be exerted on the iliac veins retarding the venous circulation, as is evident by the appearance of œdema in the external parts, or in the development of hemorrhoidal tumor. From the same cause a condition of venous stasis is induced in the hemorrhoidal and vesical venous network, resulting in venous hyperæmia of the mucous membrane of the bladder and rectum. This is also explanatory of the atony in the muscular layers of the rectum and of the passive uterine hemorrhage sometimes noticed in these cases.

In recent anteversion, or flexion, caused by defective puerperal involution, severe diarrhœa was noticed by Martin as an occasional attendant, while in long-standing cases from this cause, prolapse of the rectal wall and hemorrhoids with rectal catarrh were noticed by the same observer.

C. Symptoms of versions and flexions of the uterus observed in the abdominal organs are of considerable variety and various origin. Hueter describes a painful sensation in the region of the stomach in some cases of flexion. There is sometimes a sensation of tenderness on pressure, even from the weight of the clothing, and many have to arrange their dress accordingly. These attacks culminate in vomiting occasionally, which relieves the pain. In rare cases the stomach pain is so intense as to lead to the opinion that an ulcer exists. The paroxysmal nature of the attack corrects this error. Velpeau, Kiwisch, Sommer, Depaul, and Scanzoni, have made observations upon the origin of this cardialgia. These authors, with the exception of Sommer, simply state that the pain is due to sympathy with the uterine suffering. Sommer holds the opinion that it is a neuralgia of the intercostal nerves. Hueter believes that the pain is not a nervous sympathy with the uterus, but is the result of traction upon the ligamenta vesico-uterina and recto-uterina, since by lifting up the uterus with any means the pain is considerably mitigated, or cured, while the flexion remains uncorrected. The opinion is expressed by Anstie, that the pain assumes periodical aggravations like a true neuralgia, and the severity is largely commensurate with the sensitiveness of the general nervous system.

In special groups of versions and flexions abdominal symptoms are very frequent; as, for instance, in old retroversions or flexions caused by subinvolution of one uterine wall, pain or spasm in the epigastrium, and attacks of colic with flatulent distention of the abdomen are common. Squarey describes a dragging pain at the umbilicus as a symptom of retroversion or flexion; while Boivin and Dugès describe a pain generally complained of in the lumbar and epigastric regions as symptomatic of anteversion, and which they believe is owing to dragging on the ovarian plexus of nerves, and indirectly involving the great sympathetic plexus.

Chronic vomiting is looked upon by Priestley as a prominent symptom of these displacements, and Tilt has stated the opinion that it is as frequent in flexures as in pregnancy. Martin has specially noticed this symptom in retroversions and flexions caused by defective involution of the posterior wall of the uterus, particularly at the menstrual periods, and a bilious, or mucous, vomiting as common in forward displacements from shrinkage in the ligamentum sacro-uterina, or exudate on the posterior wall of the organ. It is not at all rare to notice persistent acid or flatulent indigestion in long-standing cases of flexions, sometimes to the extent of seriously impairing nutrition.

D. Symptoms involving the nervous system.

a. Hysteria is regarded by some writers as essentially symptomatic of versions and flexions of the uterus. Hewitt remarks that "marked flexions exist in all cases of severe repeated hysterical attacks." Niemeyer says that flexions more than any other uterine disease give rise to hysteria. Amann found retroversion and retroflexion complicated with hysteria to the extent of twenty-six per cent., and the same symptom in sixteen per cent. of the forward displacements. According to Amann's experience, arrest of normal innervation in its various forms is more frequently met with in retroversions and flexions than in the opposite group of displacements. Aside from pronounced forms of hysteria, we find nervous conditions very nearly approaching it in nearly all long-standing cases of versions and flexions, especially those in which nutrition is impaired. These conditions are exalted sensibility, mental depression, impaired will, palpitation of the heart, abdominal pulsation, and troublesome insomnia. A state undoubtedly due to nervous disturbance, is that of sudden anæmia quickly following the development of a version or flexion, as in the case recorded by Winn. Hewitt has expressed the opinon that this derangement of the trophic nerves is a reflex phenomenon due to the compression of the uterine tissue and nerves at the seat of the flexion. This theory would exclude the versions, which violates clinical experience. While we cannot ignore the reflex character of these disturbances, yet from the very general derangement of the circulation, it would seem that the strongest assault of the disturbing force was made upon this function; and that this primary disturbance may exist as a factor in many of the subsequent symptoms, especially those involving nutrition. So severe in many instances has been the heart palpitation and abdominal pulsation, as to lead to the error of diagnosticating organic disease of the heart and great vessels.

b. Neuralgia must be regarded as the cause of much of the local suffering in flexions. This neuralgic condition is observed as most intense in the peripheral termination of nerves which are associated with those having their termination in the uterus. The spinal nerves which have their distribution in the uterus are only branches of the third and fourth sacral nerves (Hueter). Diseased sympathetic disturbance is particularly found in the track of the sacral, the lower lumbar, and the coccygeal nerves. Sympathetic pain is also common in the anterior branches of the lumbar nerves, as the frequent pain in the region of the hypogastrium, the mons veneris, the inguinal region, the inner and outer surfaces of the thighs, and in the vulva prove,—points to which the lumbar nerves, as the ilio-hypogastric, ilio-inguinal, external spermatic, the lumbo-inguinal, and the cutaneous femoris, external and internal, extend. In the ramifications of the crural nerves, particularly to the knee-joint, pain is frequently noticed. The anterior branches of the sacral nerves, especially in the plexus pudendalis, are frequently the seat of more or less severe neuralgia. In the median and inferior hemorrhoidal nerves, and in the course of the pudendal branches, the sympathetic disturbance is often expressed as an intense pruritus. Sympathetic contraction of the introitus vaginæ, commonly known as vaginismus and coccyodynia, has been observed by Kiwisch, Rockwitz, and Sãxinger in connection with flexions. Sommer has noticed a tenderness on pressure of the spinous processes of the middle dorsal, the lumber and sacral vertebræ.

One of the most urgent symptoms of this group is the sacral pain. Heuter describes this pain as belonging to anteflexions and a similar pain in the lower bowels as occurring in retroflexions; but this is not clinically true, as we find the sacral pain existing in both forms of flexion alike. The sacral pain is often intense in proportion to the degree of flexion and is intensified by menstruation, exercise, and efforts at defecation. Hueter explains the sacral pain as the result of traction upon the sacro-uterine ligaments; but it is better explained as a reflex irritation.

Spontaneous pain in the uterus is very commonly observed in flexions. According to Sommer, the expansion of one wall of the uterus and the contraction of the other, affect the nerve-fibres of the uterus to equal extent. The uterine sound locates the tender point of the uterine wall at the os internum,—the most frequent seat of the flexion, and at which point the nerves are evidently involved. The nearly general state of blood-stasis in these displacements has two co-results, namely, a diseased nutrition of the uterine nerve-fibres, and an exudation in the parenchyma of the organ, or an interstitial hypertrophy of its walls, either of which must find expression in pain and tenderness. In this condition of things any mechanical irritation, such as the use of the speculum, sound, or introduction of the exploring finger, or any condition which might excite a momentary hyperæmia would develop more or less pain. Venous stasis induced by embarrassed respiration, or the approach of menstruation, may also act as an exciting cause of pain. Strong respiratory efforts through the pressure exerted upon the flexed uterus may increase the extent of the displacement, and thus produce traction upon the already tense broad ligaments through which the nerves travel to the uterus (Hueter). Local nerve pain may also be induced by impaired nutrition, the result of traction upon veins in the broad ligaments. These conditions oftentimes seriously interfere with exercise of any kind and absolutely forbid strong muscular efforts. Rockwitz and Säxinger also explain this condition as neuralgic in consequence of compression of the nerves in the ligamenta lata and in the uterus itself. Another source of neuralgia may exist in the chronic anæmia which is so frequently associated with versions and flexions.

To this last-named cause we may ascribe the occipital neuralgia which is so common in flexions, and also the frequently noticed neuralgia of the first and second branches of the trigeminus nerve. In versions or flexions caused by shrinkage in one or both round ligaments or by exudation upon the anterior uterine wall, Martin has very commonly observed headaches as an accompaniment. Cephalalgia, which very frequently is the most serious complaint the patient makes, is not so much a direct outcome of the version or flexion as it is of the anæmia, the perverted nutrition, or the depressed mental tone.

c. Locomotor lesions are often important symptoms of versions and flexions of the uterus. The simplest form of this symptom is that due to a quasi-mechanical factor, namely, obstructed circulation. Thudichum shows, from the anatomical researches of Theile and Briquet, that this obstruction may be the result of impacted position of the uterus in the pelvis, of compression of veins in the broad ligaments, or, lastly, of compression of the left iliac vein by fecal accumulations in the descending colon. The result is a more or less serious impairment of locomotion by œdema of the feet, or by distended or varicose veins. If to mechanical obstruction we add impoverished blood and impaired muscular tone with lessened heart power, so often seen in long-existing uterine displacements, we embrace about all the causes which operate to this end. In recent and long-standing cases of versions and flexions due to arrested puerperal involution of one or the other uterine wall, Martin has noticed this symptom as a frequent occurrence. Another form of locomotor disability very readily understood is that due to muscular weakness or to pain. Sommer, Rockwitz, and Martin have referred to impaired locomotion caused by soreness and pain in the muscles of the lower limbs, and by weakness or general languor. Martin speaks of this symptom being specially noticed in retroversions and flexions involving contractions of the ligamentum ovarii with fixation of the latter. The same observer has noticed locomotor lesions from pain, in those cases of anteversion or flexion, from contraction of the ligamentum sacro-uterina, or from adhesive exudate on the posterior uterine wall, especially in those subjects who date their disease from a confinement. Martin is inclined to regard these symptoms as neuroses due to the exudate involving the right or left sacral plexus of nerves. The intimate nervous sympathy of the whole system that centres round derangement of the sexual organs in both sexes is possibly as good an explanation as our present knowledge furnishes of the more obscure locomotor lesion simulating, or actually existing, as paralysis of the legs in flexions of the uterus. Bedford refers to a case of paraplegia caused by the retroverted fundus pressing on the sacral plexus of nerves, and Priestley points a moral as well as illustrates a pathological fact in his report of a like result due to the pressure of a Hodge pessary. Paraplegic symptoms have been repeatedly observed to disappear on correction of the uterine error of position. That this symptom is due to actual pressure of the dislocated organ on the sacral plexus is a matter of doubt. Any form of displacement may be attended by this symptom. Martin records four cases of more or less marked paraplegia in long-standing cases of anteflexion caused by defective involution of the posterior uterine wall. Reflex nerve irritation must also, for want of any more specific explanation, be regarded as a cause of the paraplegia of versions and flexions.

d. Epilepsy and mania have been noted in extremely rare cases as the result of persistent flexions. Martin saw epilepsy in two cases of anteflexion caused by shrinkage in the round ligaments, and adhesive inflammation of the anterior uterine peritoneum. The symptom is too rare, however, to be given importance. Mania, while it cannot be given a place as a flexion symptom, might easily grow out of the anæmia and depraved nutrition so frequently observed in long-existing cases of versions or flexions.

ORIGINAL ARTICLES.

A REMARKABLE CASE OF COMPLETE DEXIOCARDIA.

By ROBERT H. BABCOCK, M.D.,
OF CHICAGO, ILL.

H. N. J. was referred to me for examination on January 7, 1884. His history was as follows: æt. thirty-two years, a repairer of sewing-machines, health good until his twelfth year. He then met with an accident which, according to the doctor's diagnosis, resulted in a fracture of the right clavicle and a comminuted fracture of the upper three ribs of the same side. A long, serious illness followed. At one time the right half of the boy's face and neck became emphysematous. He thinks that so soon as the day after the accident, he noticed his heart as beating on the right side. At length, after many months, he was able to get about and gradually to resume work on the farm. He experienced no special inconvenience unless upon unusually great exertion, when his heart would palpitate uncomfortably and his breathing become labored. About six years ago he wasted, coughed, and expectorated profusely. His disease was pronounced consumption. Under treatment his condition greatly improved, cough and expectoration almost disappeared, and his accustomed weight was regained.

He considered his health good until about a year ago, when, during a state of great emotional excitement, he was suddenly seized with pain in the lower dorsal region. Last May he carried a sewing-machine about ten rods and up a flight of stairs. This exertion was immediately followed by a feeling of unwonted exhaustion, and pain a little higher up than that just mentioned, by a sensation as if "the left lung were filling up," and by great dyspnœa. The next July he attempted a similar lift, but after a few steps was obliged to set down the machine in consequence of excruciating pain in the centre of the back, a purring sensation near the lower angle of the left scapula, utter exhaustion, and dyspnœa. Henceforth his heart seemed to beat less strongly. Since last September he has repeatedly suffered from the sense of fulness of the left lung accompanied with overwhelming dyspnœa. These attacks have been succeded by slight hæmoptysis. His habits have been dissolute. His condition has grown gradually worse, until at the time he presented himself for examination he complained of the following symptoms:

Impaired strength, cough with slight expectoration, throbbing dorsal pain on exertion, which sometime radiates chiefly toward the left, a distressing purring sensation in the same locality, an occasional sense of fulness of the left lung with extreme dyspnœa, restlessness and wakefulness at night, inability to lie on the left side, pain and uncontrollable nervousness, occasional numbness in the extremities, chiefly the upper, slight dysphagia in the deglutition of liquids, some huskiness of voice, pain in the back upon being jarred, tenderness and soreness in right infraclavicular region, great palpitation upon ingestion of alcoholic stimulants, gradual loss of strength without loss of bodily weight, appetite good, bowels confined.

A careful physical examination revealed the following: Height nearly six feet; weight one hundred and seventy pounds; face pale; pupils normal; no venous congestion of upper part of the body; the left shoulder slightly elevated, and the corresponding side of the chest noticeably full and prominent; the right clavicle shows unmistakable evidence of previous fracture, and the right half of the thorax is visibly smaller than its fellow, being somewhat flattened inferiorly on its antero-lateral aspect. Below the right clavicle (⅞ of an inch), beginning at the right edge of the sternum, is a conspicuous ovoidal depression which is 4 inches in length and 1⅞ inches in breadth, with its long diameter parallel to that of the ribs. Below this depression and involving the right nipple is a pulsating area that stands out from the general level of the remaining chest-wall; there is slight epigastric pulsation; also a trifling scoliosis to the right. Upon inspiration the left half of the thorax expands fully, while the right remains motionless. The epigastrium sinks toward the close of forcible inspiratory effort.

Pectoral fremitus is increased over all portions of the right lung, except over the pulsating prominence already described, and is unchanged upon the left side. The cardiac impulse is felt 1 inch below and 1⅕ inches outside of right nipple, and 4⅛ inches from right border of sternum; but when the patient leans forwards the true apex-beat is discovered on a line parallel with the nipple, 2⅖ inches to the outside, and 5½ inches from the right edge of the sternum. A slight pulsation is also felt in the hepatic region, synchronous with the cardiac systole and with the visible and palpable pulsation in the *scrobiculus cordis*. The radial pulses are synchronous, full, strong, equal, and eighty to the minute. In the suprasternal fossa the aortic pulsation is indistinctly felt, and like the carotid and subclavian pulses of both sides synchronous with the ventricular systole. The pulsation of the abdominal aorta is distinctly delayed. No thrill is perceived anywhere. Tenderness is complained of only in the neighborhood of the right mamma, though pressure upon the abdominal aorta occasions pain in the back between the scapulæ.

Careful mensuration gives the following differences between the two sides of the thorax: At the level of the second sterno-costal articulation, the left half measures 18⅖ inches; the right, at same level, 16⅞ inches; left, at fifth sterno-costal articulation, 18⅖ inches; right, at same level, 16⅖ inches.

The percussion note over all portions of the left lung is full and sonorous. No cardiac dulness to the left of the sternum can be discovered. The left lobe of the liver is somewhat lower than normal. The upper lobe of the right lung anteriorly emits a rather short, high-pitched percussion note, as far down as about 3 inches below the clavicle, the uppermost boundary of the præcordia, and from this point downwards along the mammillary line to the lower margin of the ribs the percussion note remains absolutely flat. The only indication of the superior border of the liver is a sense of increased resistance about 2 inches below the right nipple, at the inferior limit of the pulsating prominence. The inner boundary of the right apex is defined by a line of dulness which passes gradually downwards and inwards into the ovoidal depression a short distance to the right of the sternum. Thence an indistinct line of dulness ascends inwards on to the *manubrium sterni* a little below its articulation with the clavicle. Turning here and growing gradually well defined it runs directly downwards upon the breastbone close to its right border until lost in the hepatic region. Throughout the remainder of the right lung the percussion note is almost flat and the sense of resistance extreme. Over the superior lobe these characters are somewhat less marked. No dulness can be detected over the seat of dorsal pain in immediate proximity to the vertebral column.

Auscultation shows the respiration of the left lung to be vesicular with slightly prolonged expiration. No râles. Vocal resonance, diffused. In the second left intercostal space near the sternum the ear detects a rather faint, rough systolic murmur which is propagated with slightly greater intensity downwards to the fourth space, and more faintly toward the axilla. The respiratory sound of the right apex is loud and broncho-vesicular; the voice exaggerated. Over the inferior lobe, chiefly behind, where the percussion sound is so flat, the respiration is faint but unmistakably tubular; the voice pectoriloquous. No râles are distinguishable.

At the proper location of the apex-beat a slight bellows murmur accompanies and partially obscures the first sound of the heart; the second sound is accented and prolonged. This systolic murmur is heard with greatest intensity on the mammillary line, 2 inches above the nipple; here the second sound becomes reduplicated. As these sounds are traced upwards and inwards, the murmur is lost by degrees, being replaced by an impure first sound; the second grows louder, until at the inner edge of the ovoidal depression it becomes booming, appearing at times to assume the character of a short, rough murmur. These two cardiac sounds, with the same character but less intensity, can be traced into the suprasternal fossa. Along the right border of the sternum they become gradually less distinct, until at the fourth right interspace near the breastbone, they are replaced by the clear first and accented second sound of another set of valves. Both cardiac sounds are propagated throughout the entire right side, most audibly at the inner border of the right scapula.

Two and two-fifths inches to the left of the third dorsal vertebra, an obscure sawing murmur is detected, which has its maximum of intensity opposite the fifth dorsal vertebra, and is propagated from here downwards and outwards. This murmur is synchronous with the ventricular systole and corresponds in character to that heard in front and to the left of the sternum. Change of position does not materially affect the character of the cardiac sounds.

Upon careful percussion any transposition of the abdominal viscera could not be discovered.

As a result of the foregoing facts this interesting and complicated condition of the thoracic organs was interpreted as follows:

Cirrhosis of the right lung with compensatory vesicular emphysema of the left; complete dexiocardia, acquired, with hypertrophy and dilatation of both ventricles; displacement of the arch of the aorta to the right, with probably more or less twisting; sacculated aneurism of the descending part of the thoracic aorta. This was in January, 1884. The last week of the ensuing April the patient presented himself again, and another most thorough examination induced a change of opinion concerning the nature of the aneurism.

The man's general condition did not appear to have altered materially, though he was of the belief that he had lost ground. He complained of all sorts of symptoms which he attributed to the aneurism. He had read considerably upon this form of disease and by continual study of his symptoms had grown morbid, so that he fancied he was in hourly danger of sudden death from rupture of the sac.

The first examination was corroborated in every particular, except that the cardiac impulse was less strong, the prominence less pronounced and somewhat broader, the heart-sounds and murmur less distinct.

There was furthermore discovered near the angle of the left scapula blowing respiration, but as all other signs of cavity in that locality were wanting, it was concluded that the respiration received its tubular character by transmission from the right lung. This peculiarity had most likely existed, but been overlooked on the previous examination.

Through the kindness of Dr. Lester Curtis, assisted by Dr. W. W. Jaggard, sphygmographic tracings were taken of the right radial and right femoral pulses, which showed them to be normal, and set at rest all thought of a saccular aneurism. Furthermore, they give no indication of valvular disease.

An analysis of the urine showed nothing abnormal; there was no sugar or albumen.

How did this displacement of the heart occur? There is no cause that would produce it so suddenly, as the patient thinks was the case. The two recognized factors, in the production of cardiac dislocation to the right, are pressure on the one hand and traction on the other. There are no signs of pleuritic effusion into the left thorax, or any other condition likely to exercise pressure on the heart, and no cause according to the history for its production. On the contrary, we have every reason to suppose that an extensive and violent inflammation resulted from the laceration of the right pleuræ. That a laceration of the pulmonary pleura occurred is proved by the existence of emphysema of the face and neck. It is reasonable to infer that the lad was delirious for a length of time. Even had that not been so, it would not be strange if his memory had lost all trace of the events of the first few weeks of his illness. Hence we may assume that, when he first noticed his heart beating on the right side, it had been drawn thither by slow shrinkage of pleuritic adhesions and by retraction of the lung. Right here, some one may suggest that the dexiocardia was congenital; indeed, the patient declares that some physicians have thought this probable. Schrötter, in alluding to a case of complete dexiocardia produced by retraction of the right lung, takes this ground when he says:[1] "We must assume that behind the contraction of lung as a cause, there lay a congenital dexiocardia." But this theory is excluded in this case by the fact of the abdominal viscera not being transposed, as is always said to be the case in congenital dexiocardia.

It is not easy to determine the exact pathological condition of the right lung. The pleuritic effusion may have compressed the lung and upon its absorption have left thick deposits of organizable lymph behind, which together with the displaced heart prevented a subsequent expansion. Or, there may be cirrhosis as a result of the extension of the inflammation into the lung tissue. Or, both factors may have existed, compression and chronic interstitial inflammation with subsequent contraction of the lung.

It was not tuberculosis for which he consulted a homœopathic physician, but cirrhosis with bronchiectasis, the signs and symptoms of which might well simulate those of tuberculosis with consolidation. The condition of the left lung is that of compensatory vesicular emphysema.

To return to the heart: the impediment to the circulation in the right lung must have inevitably occasioned hypertrophy and dilatation of the right ventricle. Immovably held within a space much smaller than that it normally occupies, and hemmed in on all sides, by the cirrhotic lung behind, the chest-wall in front, and the liver below, it has been unable to dilate as fully as it otherwise would have done. It is also interesting to know if the heart underwent rotation, and how. Some rotation on its long axis must have occurred, since in lateral displacements it is said,[1] "Turning of the heart on its long axis generally occurs in such a manner that the right auricle and ventricle come to look more directly forwards and the left cavities backwards." Bamberger has reported a case of dexiocardia, from left pneumothorax, in which the heart rotated in the opposite direction, with extreme torsion of the great arteries. Schrötter, who mentions it[2] as an exception to the rule, thinks there must have been an inherent tendency in the organ to such a turning. In the present case it is inconceivable that the heart could have assumed a so nearly horizontal position in the right side without having revolved on its long axis so as to bring the right cavities further forwards; since to have rotated in the opposite direction would have necessitated a degree of twisting of the large vessels at its base incompatible with the performance of their functions. The anatomical arrangement of the pulmonary artery is such that it would have been wound tightly about the base of the aorta, narrowing its lumen and interfering with its expansion. It seems to be, therefore, a physical impossibility for this heart to have turned from left to right; on the other hand, it is difficult to understand how it could have revolved from right to left without likewise so distorting the great vessels as to disqualify them for duty. Doubtless their normal configuration has been destroyed. The arch of the aorta must have suffered the greatest deformity, having been displaced and twisted. Yet, strange to say, no indication of it by murmurs is discoverable. Indeed, it is so puzzling even to conjecture the condition of affairs that it would almost seem, notwithstanding the non-transposition of the abdominal viscera, as if the heart had originally laid to the right of the sternum, thus constituting an exception to a condition which is itself an anomaly. But, of course, such an hypothesis is so unlikely as to be absurd. The elucidation of this point must be left to him who is so fortunate as to make the autopsy.

Whatever be the form and position of the aorta, they have not been, probably, without effect on the left ventricle. As in the case of the right ventricle, there could scarcely fail to be some impediment offered to the expulsion of its contents; hence the development of hypertrophy. Though how far this has heen held in check by the unyielding structures adjacent, there are no means of determining.

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[1] Ziemssen's Cyclopædia of the Practice of Medicine. Vol. vi. page 184.

[1] Ziemssen's Cyclopædia of the Practice of Medicine. Vol. vi. page 177.

[2] Ibid., Vol. vi. page 178.

The bellows murmur heard at the apex is hæmic in origin, to judge from its character and the sphygmographic register of the pulse. It may denote an alteration of the quality of the blood; or the pressure of the surrounding parts may have so altered the natural shape of the ventricular cavity as to create "fluid veins" within the stream of expelled blood, which "fluid veins" generate the blowing murmur.

As already stated, the rough systolic murmur heard between the left scapula and the spinal column was at first considered as evidence of an aneurism, probably saccular. The conclusion was hasty, and upon further thought it was abandoned, in the belief that, if there were anything more than an atheromatous degeneration of the aortic walls, it was of the nature of a true aneurism. The syphygmograph showed the correctness of the opinion, so far as a false aneurism was concerned.

Positive signs of aneurism, such as thrill, pulsation, and a circumscribed area of dulness are wanting; yet, if the patient's symptoms are to be anywise trusted, there must arise a suspicion of aortic pressure upon the adjacent structures. The murmur cannot be relied on as indicating an aortic tumor, since it may be due to an atheromatous roughening of the intima. Indeed, it could scarce be otherwise than that the violence done to the aorta, by the cardiac displacement, was followed by a chronic sclerotic endarteritis; then what more natural than that the atherosed walls should yield to the strain put upon them, and a dilatation eventuate? Furthermore, the correctness of this view derives support from the evident delay in the pulsation of the abdominal aorta, if Balfour be right when he states,[1] "Delay of the pulse is a sign of atheroma, or of dilatation of the aorta, but not of saccular aneurism, which does not interfere with the normal propagation of the pulse."

The prognosis, independent of the condition of the aorta, was regarded as unfavorable, since the repeated attacks of sudden engorgement of the sound lung were looked on as indicative of failure in the compensatory action of the right heart.

The literature on the subject of complete permanent dexiocardia is scattered and, so far as the author has been able to learn, not very abundant. Hence, if this account reach the eye of any one who possesses facts concerning similar cases, the writer would consider it a great favor if allowed to communicate with him in regard to them. Considerable of interest bearing on the subject is to be found in the sixth volume of Ziemssen's *Cyclopædia of the Practice of Medicine*, in the chapter on cardiac displacements. The bibliography of the subject is there also cited.

In conclusion, the writer wishes to state, this case is reported because of its diagnostic and pathological, not therapeutic interest.

2330 Indiana Avenue, Chicago, Ill.

COCAINE AS A LOCAL ANÆSTHETIC IN OPHTHALMIC PRACTICE.

By D. C. COCKS, M.D.,
CONSULTING OPHTHALMIC SURGEON TO THE RANDALL'S ISLAND HOSPITALS, NEW YORK.

At the late meeting of the Ophthalmological Congress at Heidelberg, a short account of the method of using the muriate of cocaine as a local anæsthetic for the cornea and conjunctiva, was given and its use demonstrated. During the week I have had a few opportunities for trying it in my office, and at the clinic of the New York Eye and Ear Infirmary.

Case I.—Young lady, æt. 20, has had a foreign body in her cornea for twenty-four hours; there is slight keratitis. Two drops of a two per cent. solution of the muriate were instilled into the eye, and again in ten minutes two more. She volunteered the statement that her eye was less painful. The foreign body was then removed with a spud; it was deeply embedded on the cornea and required considerable scraping to remove thoroughly. Some pain was experienced, but not "one-half" that felt when I removed one not so deeply embedded, without the cocaine.

Case II.—A foreign body was removed from a cornea (male adult), causing only slight pain.

Case III.—Male, æt. 12. Cornea tattooed without causing *any* pain (although at previous sittings had complained decidedly of the suffering). Did not feel any pain from the wire speculum used.

Case IV.—Female, æt. 13. Tenotomy of right internal rectus for strabismus; complained of slight pain only.

Case V.—Female, æt. 21. Tenotomy of right internus; stated that she felt no pain during the operation, but felt uncomfortable from the stretching of the outer canthus by the speculum.

These few facts show that in a certain proportion of cases, the muriate of cocaine does produce decided anæsthetic effects. It is not claimed for this drug anæsthetic influences on the deeper structures of the eye, and why in Case V. pain was not complained of when the subconjunctival tissues and tendons were cut, I do not know. It has no effect on the pupil or on accommodation; no unpleasant results have followed in any case, although it has been used in over thirty cases during the past week in New York and Brooklyn. Besides the above cases I have seen one cataract operation by Dr. J. L. Minor, and one iridectomy for glaucoma by Dr. C. S. Bull; these cases will be reported and, therefore, I do not give them in detail.

What the possibilities are in the future for this new aid to ophthalmic surgery and medicine, I will not pretend to say, nor what disappointments we will meet in its use, but certain it is if the *pure* drug can be obtained, that most of the operations on the cornea and conjunctiva, which formerly required chloroform or ether, can now be done equally well without them.

Further observations in regard to the application of cocaine to ophthalmic surgery and medicine during the past week have shown the line along which we may expect benefit, and where it will not be useful. In all cases, except where there was acute inflammation, cocaine muriate answered all the requisites of a complete local anæsthetic.

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[1] Clinical Lectures on Diseases of the Heart and Aorta. 2d ed., page 385.

In strabismus operations *no* pain is complained of. In iridectomies the iris retains its sensibility. Where there existed pain and photophobia from corneal abrasions, these were relieved, as is shown by the following case.

CASE VI.—Mrs. M., æt. 25, had her cornea scratched by her infant's nail; severe pain and photophobia were at once experienced. The pain continued so severe that she could not sleep. The next morning she entered my office and gave the above history. I used the cocaine in the usual manner and in fifteen minutes she (unsolicited) stated that the pain had left her eye, and she was able to go to the window and look out without closing it.

On the other hand, the following case was not benefited by its use.

CASE VII.—Mr. N., æt 36, an iron-moulder, received a red-hot piece of iron in his left eye, burning the cornea at its lower and outer limbus as well as the adjacent conjunctiva. In spite of the use of hot water and atropia, the ulcer spread until it had reached the centre of the cornea. Intending to do a paracentesis of the cornea, I used the cocaine thoroughly, but he experienced severe pain on the introduction of the speculum and when the conjunctiva was grasped by fixation forceps.

October 15, 1884.
206 EAST 116TH ST., NEW YORK.

DIFFUSE INFLAMMATION OF AREOLAR TISSUE OF PENIS AND SCROTUM IN A CHILD TWO WEEKS OLD.

BY ALEXANDER MARCY, JR., M.D.,
OF RIVERTON, N. J.

ON Friday, June 27, 1884, I was called to see a child of Mr. B. The messenger stated that the child was thought to be dying, and he wished me to go immediately. The child, a fine, healthy boy, was born two weeks previous to my visit, and had been particularly well since birth. His condition when I saw him was not alarming, but the mother told me that before I came it had been. She had noticed early in the morning, that he seemed to be suffering, and gave several "peculiar grunts," but as he nursed as usual, and the bowels and stomach were all right, very little notice was taken of it.

About midday he seemed to be still more uneasy, and soon became very cold and blue. She put him in a warm bath and gave small quantities of brandy in warm water, so that by the time I got there reaction had taken place, and the condition of the child seemed natural. I simply ordered that he be kept quiet and warm. Later in the day I saw the child again, when there seemed to be some disposition to lung trouble; his pulse was rapid, respiration very much quickened, and slight elevation of temperature; examination of lungs revealed slight mucous râles, but nothing more. Ordered small doses of aconite rad., with syr. squillæ, and the child to be kept very warm and quiet.

The next day the child seemed better, temperature normal, respiration and pulse much less frequent, physical signs in lungs normal. Ordered treatment discontinued, and supposed little fellow all right.

On July 1st, three days later, I was asked to examine the child's "privates," which, the mother said, were very much swollen. She had first noticed it two days before, on the day following my first visit, but had not mentioned the fact from feelings of delicacy.

On examination I found them presenting a very unnatural appearance. The scrotum was swollen to twice its natural size, slightly red in appearance, pitting on pressure. The penis was also very much enlarged, but much lighter in color. There was a condition of phimosis present, as the glans could not be exposed on account of the swelling of the organ; it was also œdematous, and looked as though it had been poisoned by the Rhus toxicodendron.

There did not appear to be any particular elevation of temperature in the parts, especially the penis, although the trouble seemed to be inflammatory in its nature; neither were there any systemic manifestations of the trouble at this time. Careful inquiry could not elicit any possible source of poison, and from the child's age such a thing would not have been thought of, but from the striking resemblance to such trouble.

Evaporating and cooling lotions were applied assiduously throughout the day and night, but the swelling increased rather than diminished. Now appeared evidences of trouble from pressure unless the tension were soon relieved. It was proposed to make several incisions through the skin and allow the fluid to drain slowly out of the cellular tissue, but the parents of the child objected, thinking that such a thing would destroy his individuality as a male. By this time the swelling had increased enormously, the parts looking like a bladder. As they would not allow the punctures to be made, a consultation was suggested, to which they readily agreed. Dr. Alex. Mecray, of Camden, was called, and he agreeing with me that it was very necessary to relieve the great pressure resulting from the overdistention, the parents allowed me to make several punctures. Considerable serum immdiately escaped from the openings, and this was kept up by hot applications.

The next morning the penis looked much more natural, having decreased very much in size during the night.

The swelling of the scrotum had also gone down to some extent, but unfortunately the relief had come too late; the skin in several places looked dark and soft, as though it were going to slough. Poultices of flaxseed were applied, and by the next day it had sloughed on each side of the raphe, which gradually extended until they coalesced, while at the same time it extended in other directions. This slough extended through the skin and superficial cellular tissues, leaving the dartos exposed.

On the 7th of July, four days after the sloughing began, the dartos commenced to look badly, and in 24 hours it had completely sloughed away, leaving the testicles exposed. They were not at all enlarged, and looked none the worse for their rather hard squeezing.

There now existed an extensive ulcer, fully four inches in circumference, the edges of which were irregular and indurated, and entirely devoid of granulation. These appearances were not changed for four days. On the fifth, evidences of granulation were observed around the edges, and by gently stimulating them they developed with great rapidity. At the same time, the opening seemed to grow smaller each day by a sort of puckering or contraction of the scrotum. The ulcer gradually decreased in size, and in a few weeks was entirely healed. The left testicle is perfectly free to move, while its fellow is fastened by adhesion to the scrotum.

During the occurrence of this trouble, the child's general health did not suffer at all, and there was so little pain that anodynes were seldom necessary.

This was, no doubt, a case of what has been called inflammatory œdema of penis and scrotum, and what is more appropriately termed diffuse inflammation of the areolar tissue of the penis and scrotum. I cannot assign a cause, the extremely tender age of the child making its occurrence unusual. The results of this case show clearly the danger of delay in making free incisions to relieve the pressure resulting from the cellular tissue being overdistended with serum.

HOSPITAL NOTES.

TERRACE BANK HOSPITAL FOR WOMEN, PITTSBURG, PA.

Service of R. S. Sutton, M.D.,
SURGEON TO THE HOSPITAL.

FIVE CASES OF SUPRAVAGINAL HYSTERECTOMY; THREE RECOVERIES AND TWO DEATHS.

Reported by W. L. Stone, M.D.,
ASSISTANT.

The extraperitoneal method of treating the pedicle after supravaginal amputation of the uterus and both ovaries is still a question of debate. In the five cases in this report the pedicle was treated inside of the peritoneal cavity. In none of the cases was there any secondary bleeding. In all the stump was secured by strong silk ligatures; the pedicle, being first transfixed, was tied in halves. The end of the stump, in four of the cases, was hollowed out and the flaps stitched closely, uniting the peritoneum across the stump. In one case the stump was divided, after ligation, with the Paquelin cautery. Three of the cases have been at home several months, and are well. Two died. In the *first* one the tumor (fibroid) weighed sixteen pounds, was developed between the layers of the broad ligament on the left side, and the tumor and rectum were closely adherent. The tumor was shelled out of its capsule or bed after the amputation of the uterus. In the *second* the tumor was identical with the first, but weighed fifteen pounds. It was shelled out, and the amputation of the uterus made the last step. The first case died of exhaustion, and the second one of tetanus.

Dr. Sutton looks upon supravaginal hysterectomy as a fairly safe operation, excepting in cases in which the tumor is very large with extensive adhesions, and in such cases as the two given above, in which the pelvis is full and the development is between the layers of the broad ligament, he trusts to the ligature when he feels sure he has constricted the stump, and believes that it is a great advantage to cover the end of the stump. Once I have seen him ligate the arteries outside the stump with separate ligatures. The case in which he divided the stump with the cautery had more trouble to recover than the others. In two of the cases which recovered he made a deep groove in the cervix with Kœberg's serre-nœud and sank the ligature in the groove behind the wire, then cut the wire and took it off. He left a drainage-tube in all these cases, but in every one it was removed in a day or two, and in none of the cases does he consider that it was of any use, unless it was in the last case, which gave off four and a half fluidounces of blood from the sac in which the tube was fixed.

For small tumors he prefers oöphorectomy, but is not disposed to trust it in tumors larger than a large cocoanut. He has twice seen hysterectomy required after oöphorectomy had failed; in one of the cases Mr. Tait had done the oöphorectomy, and in the other case Dr. Bantock had done it. The tumor was not very large in either case.

If a tumor has, by adhesions, established a blood supply independent of the uterus, he holds that it is worse than foolish to depend upon oöphorectomy alone. That, if it is the operation elected, that all the adhesions should be ligated and divided with Paquelin's cautery also, if possible.

MEDICAL PROGRESS.

Cocaine as a Local Anæsthetic.—Dr. Koller, of the Vienna General Hospital, has quite recently discovered in cocaine a valuable agent for the production of local anæsthesia. He found that the introduction of from one to three drops of a two per cent. watery solution of cocaine into the corneal chamber rendered both the conjunctiva and cornea completely insensitive, so that, for instance, the cornea could be partially gouged without exciting any reflex action or sense of pain. The same fact was demonstrated by Drs. Brettauer and Becker at the recent Ophthalmological Congress. Koller in his first report mentioned the employment of the same agent in the production of anæsthesia of the larynx.—*Lancet*, October 4, 1884.

The Removal of Tuberculous Ganglia.—Cazin (*Bull. et Mém. de la Soc. de Chir. de Paris*, tom. x. page 222) gives some statistics on this subject, from the Berck-sur-Mer Hospital.

Of 1482 patients with ganglionic affections treated in this hospital from 1869 until the close of the year 1882, 1118, or 75.44 per cent., were cured; 296, or 19.97 per cent., were improved or taken away; and 68, or 4.59 per cent., died. These very favorable results were in great part due to the influence of the sea-baths and the sea-air, especially in the cases of longest stay in the hospital, amounting in some cases to 450 days. The advantage of so long a course of sea-baths is especially seen when the statistics of other seashore hospitals are compared, the duration of the patient's stay being from twenty days to three months, and the percentage of cures 48.14.

Until 1879 local treatment was confined to painting with iodine, injections of iodine, opening of the fistules, and the establishing of setons. At this time Cazin took charge of the hospital, and undertook to reduce the duration of the treatment by active interference. Whilst he left the non-suppurating glandular swellings of medium size to heal spontaneously, he extirpated with the knife those which were of considerable size, and had been formerly treated by the expectant method; and the sluggish, ulcerating glandular swellings he removed with the thermo-cautery and the sharp spoon. He operated, as a rule, after the patients had been in the hospital for about two months, so that they could be placed under more favorable conditions for an easy recovery from the operation. He always attempts to have the wounds heal by first intention, and thoroughly removes the smallest glands. As a rule, cicatrization took place quickly, but very often the cicatricial surface became the seat of keloid. For a dressing he uses muslin or charpie soaked in alcohol or carbolic acid water. He has operated on 91 out of 335 children; of the cases operated upon, 82.34 per cent. recovered; of the others 68.77 per cent. recovered.

A comparison of the results obtained in the hospital from 1869 to the end of 1878, with those from 1879 to the end of 1882, shows a percentage of recovery, for the first of 71.64, for the latter 75.55. The apparently slight difference is due to the fact that during the years 1879–1882, inclusive, there was a far greater percentage (22.98 against 13.34) removed from the hospital before being entirely cured, but the greater number of these entirely recovered subsequently. The percentage of those only "improved" fell from 3.66 before 1879 to 0.90 afterwards, of the unimproved from 1.66 to 0.60, and of deaths from 4.87 to 3.88; and the death-rate would have been still further reduced had not variola, scarlatina, and croup carried off a larger number than in the first period. The average duration of treatment was reduced from 376 days to 225. In the last three years only 4 cases relapsed; only 2 patients died from the operation itself.—*Centralb. für Chirurg.*, Sept. 13, 1884.

FRACTURES IN SYPHILITICS.—In a recent work on this subject DR. LOUIS GELLE draws the following conclusions on this subject:

In hereditary syphilis one observes, in newly born children, two kinds of lesions, separation of the epiphyses, fractures, either juxta-epiphyseal or in the shaft, lesions which give rise to pseudo-paralysis. In older children, fractures which occur and consolidate spontaneously without specific treatment, just as in the case of healthy persons, though in some cases the children may have specific lesions, as gummata, etc., at a later date.

Acquired syphilis, almost always in the tertiary period, (*a*) constituting a predisposing cause of fractures; a cause which appears in a number of spontaneous fractures, whether the syphilis causes a general alteration of the osseous system, as some rare cases seem to show, or whether it causes a local lesion which diminishes the resisting power of the bone at this point. (*b*) In a certain number of cases it retards the consolidation of fractures; sometimes it is a cause of pseudarthrosis, but in the majority of cases the fracture consolidates under appropriate treatment. (*c*) It may cause specific ulceration of the wound when the fracture is compound. (*d*) In some cases it may appear in the cicatrix, the callus forming a locus minoris resistentiæ.

Syphilis appears, then, to play an important part in the causation of fractures, and may be manifested at a late period at the seat of an old fracture. In all cases, therefore, in which the fracture is out of all proportion to the traumatism, or in which consolidation is delayed or does not take place, the surgeon should ascertain whether he has not a case of syphilitic affection to treat, so as to aid consolidation.—*L'Union Médicale*, Sept. 20, 1884.

SUBCUTANEOUS INJECTIONS OF ETHER.—In adynamic pneumonia, when there is considerable depression of the vital forces, and when the ordinary means have been used without success, and the patient is threatened with asphyxia, DR. H. BARTH injects under the skin a syringeful of ether. In grave cases the injection may be given as often as four times during a day.

These injections have an excellent effect upon the cough, and seem to aid the bronchi in discharging the exudate. The injections may be made in the thigh, the back, or the loins. They cause a burning sensation, which, however, soon disappears.

DR. FEREOL uses ether injections whenever there is very pronounced feebleness, following hemorrhage, typhoid fever, etc. In his opinion they are an excellent means for cases of extreme exhaustion, threatening the life of the patient. DR. MOUTARD-MARTIN has used them successfully in the algid stage and the cramps of cholera.—*L'Union Médicale*, Sept. 20, 1884.

THE DIFFERENTIAL DIAGNOSIS OF FEMORO-POPLITEAL NEURALGIA.—DR. L. K. LAZAREVIC, of Belgrade, says, in an article on this subject, that femoro-popliteal neuralgia is unquestionably one of the most frequent kinds of neuralgia; so much so that the term ischiagra is usually understood as referring to this kind. Its frequency, and the difficulties in making an exact diagnosis, have led him to a greater consideration and estimation of a symptom which he has always found present, and which appears to him to be pathognomonic.

All the hitherto described symptoms are entirely inadmissible in making an exact diagnosis; either because they are not confined to this type, or because they are often absent. The often-mentioned Valleix's symptom, in which it is said that the patient points out the painful spot with the finger-tip, while in muscular rheumatism he uses the whole hand, is, in the writer's opinion, worthless. Valleix, for example, finds this painful spot most frequently in the region of the posterior superior spine of the ilium; and, though this region is certainly not a point, he says that the patient indicates it with the tip of the finger; whilst Erb most constantly finds it above the foramen of exit of the sciatic nerve, and under the skin at this place. Unquestionably it is very characteristic if the patient, in pointing out the seat of pain, follow the course of the nerve with the tip of the finger; but this very seldom occurs. Even less frequent are such other symptoms as increase of the pain by cough, sneezing, or defecation; and irradiation of the pain, muscular atrophy, increased growth of hair, vaso-motor disturbances, subjective sensations, etc., are of equally little diagnostic value. No one would make a diagnosis from the pain and the situation alone; and such symptoms as muscular atrophy, anæsthesia, the characteristic gait, etc., appear after the affection has been diagnosticated by its cause.

The symptom which the writer regards as so important depends entirely upon the anatomical arrangement of the nerves in the leg; and, to understand the bearing of this question, this distribution must be borne in mind.

Every mechanical irritation of a diseased nerve causes pain. Pain is also elicited by pressure; or, if continuous, is increased by pressure, or by stretching the nerve. The painful spots may be found by pressure, but stretching increases the pain along the whole course of the nerve; and, if pain be present, and be increased by pressure or stretching, we have to do with a diseased nerve; and in the case under consideration, with femoro-popliteal neuralgia, by pressure on the great sciatic alone, we can mechanically irritate the surrounding parts. The pain caused thereby may also be caused by disease of another part. Besides pressure and kneading of the nerve, we can stretch and make it tense. If the anatomical arrangement of the nerve be remembered, it seems evident that the nerve will be most stretched when the knee is extended, the foot in a state of plantar extension, and the limb flexed on the abdomen. In this position all the branches, both muscular and cutaneous, are put on the stretch.

When the lower limb is placed in the above described position, all these nerves are stretched; and in case one nerve is diseased pain is felt, or increases if already present. Careful measurements of the limb in the strongly flexed and normal positions showed a difference of about three and one-fifth inches (8 cm.), the strongly flexed limb being longer. It is very certain that this flexion is painful in cases of femoro-popliteal neuralgia, and more painful as the flexion is stronger. By this stretching other soft parts may be made tense, and the joint put in motion. By this manipulation, therefore, it may be ascertained, by noting the situation of the pain, that one particular nerve is affected, and that the pain proceeds from it. Attention to the anatomical relations also assists in causing movements by which the muscles, and not the nerves, are stretched, and by which the joint is rotated without the nerves being stretched, at least not the cutaneous nerves, to a considerable degree. With the limb in this position a circle may be described, without stretching the nerve, the joint being the centre, the femur, the radius, and the knee the periphery. By pressure on the trochanter and the knee, the head of the femur may be pressed against the floor of the cotyloid cavity. In pure cases of femoro-popliteal aneurism this manipulation causes neither pain in the region of the nerve, nor is the pain increased by the movements. From this it is easily understood, as has been observed without exception in all cases of ischiasis, that all movements by which the nerve is stretched cause pain. Such movements are: A strong tread, with the knee extended; sitting, as in bed, with extended and fixed knee; bending forwards, as though to pick up something from the floor, with extended knee. The walk is characteristic; the knee-joint of the affected leg is only in a state of extension when the leg serves as a direct support; as soon as the body has passed this point, the joint is again flexed. In order to compensate for the resulting shortened step, the body is carried over toward that leg. The gait is limping, the pelvis of the affected side is raised and carried forwards, and the step of the affected leg is considerably shorter than that of the other. The patient ascends stairs in the same manner as children. He can often, when the knee is flexed, flex the femur on the abdomen by using the quadriceps femoris, and without increasing the pain.

It may be said, then, that when pain is caused by the movements described above, or is increased when already present, we can then seek out the affection by passive movements of the bended knee and surrounding parts. If pain is caused by these movements, or is increased when already present, the diagnosis of ischias postica Cotunnii may be made.—*All. Wien. med. Zeitung*, Nos. 37 and 38, 1884.

Dislocation of the Ankle Outwards.—Fischer, of Hanover, reports two cases in which there was outward dislocation of the ankle-joint.

The first case was that of a man, twenty-three years of age, who slipped on a small piece of wood, and fell in such a manner that his left leg was caught under his body. On examination it was found that there was considerable deformity of the ankle-joint; there was plantar flexion, and the tip of the foot was sunk, so that the long axis of the foot made an angle of 130° with that of the leg. The foot could not be rotated around the sagittal axis. The heel was twisted toward the median line, and the tendo Achillis was slightly stretched. The internal malleolus was sprung forcibly against the skin. On the external surface also there was a bony projection, which was not the external malleolus, however, but the fibular articulating surface of the tibia. By pushing the finger behind this the external malleolus could be felt. The fibula was fractured in the usual place.

Reduction of the dislocation was easily performed, and the functions of the joint were completely restored. Fischer believes that the fibula was broken by the twisting of the foot on the piece of wood, and that the joint was dislocated by the fall of the body upon the foot.

The second case was one of rupture of the ankle-joint, with fracture of both malleoli, and outward dislocation of the joint.—*Centralbl. für Chir.*, Sept. 13, 1884.

Mosquitoes and Yellow Fever.—The following propositions, which give in a condensed form the chief conclusions of Dr. Carlos Finlay's work on Yellow Fever, deserve consideration. Ordinary yellow fever is inoculable by means of the bite of the mosquito (Culex mosquito) on the third, fourth, fifth, and sixth days of its natural evolution. The disease cannot be transmitted by the agency of the insect before the third day or after the sixth, no matter what the severity of the disease. The period of incubation of this experimental inoculation varies as widely as that of natural yellow fever. The duration and severity of the fever produced by inoculation by the mosquito appeared to be proportional to the number of the bites, and presumably to the quantity of matter contained in the insect's fang.

The inoculation with one or two bites of the insect has never been followed by phenomena other than those usually met with in benign yellow fever. The results obtained up to the present, lend hope to the suggestion that the inoculation by means of one or two *piqûres* of the mosquito may confer immunity from the severe forms of the disease to those who have to dwell in its midst. The inoculability of the disease by the agency above indicated points to the value of guarding patients suffering from yellow fever against the bites of mosquitoes in order to prevent the spread of the malady.—*Lancet*, October 4, 1884.

The Diagnosis of Pregnancy in the Early Months.—Prof. Hegar, of Freiburg, in an article on this subject (*Prag. Med. Wochenschrift*, No. 26, 1884), says that the usual diagnostic signs of pregnancy, a change in the general state, suppression of the menstrual flow, changes in the breasts and genital organs, the enlargement of the uterus and changes in the cervix, are, as we know, uncertain in many cases. It is, therefore, important to know some constant symptom.

This constant symptom, he says, consists in a particular softness, a certain suppleness and thinness of the lower segment of the uterus, that is to say, the part immediately above the insertion of the sacro-uterine ligament. This may be easily determined, not only when the uterus is resistant, but even when it is soft and elastic. In the latter case it is possible, by depressing the uterus, to distinguish the upper portions and the rigid cervix. This portion is so soft that it seems as though the cervix is in contact with a pelvic or abdominal tumor. There seems to be no pathological state which gives rise to this sign, not even hydro- and hæmatometritis. The cause of this sign lies in the fact that the lower segment of the uterus becomes the thinnest part during pregnancy, and consequently softer and more elastic; and by combined rectal and vaginal examination it is possible to distinguish this part, with its characteristic feel, between the fingers. It should be remarked that the absence of this sign is not a proof that pregnancy does not exist.—*Annales de Gynécologie*, Sept. 1884.

Disinfecting the Sputa of Phthisis.—Dr. J. Sormani, of the University of Pavia, gave some interesting details at the Hygienic Congress of the Hague, concerning experiments made this year on one hundred and fifty guinea-pigs with the sputa from phthisis. The object in each case was to ascertain what chemical or other methods would neutralize the bacillus, which it was previously ascertained existed in large numbers in the sputa. The results of these experiments were summarized in the following manner: 1. The bacilli of tuberculosis were generally very difficult to destroy; dryness, exposure to oxygen, putrefaction, and most disinfectants failed to produce any effect. 2. A temperature of 100° C. only killed the bacilli after at least five minutes of ebullition. 3. The artificial digestion of bacilli showed that they were the last of all living organisms to be destroyed by the gastric juices or chlorhydric acid. A very active digestion is necessary to kill this microbe. A healthy man may destroy the bacilli in his stomach, but an infant or an adult, with his digestive faculties impaired would easily allow the germ to pass the stomach intact, and retain its virulence in the intestinal tube. This determined enteric ulcerations, etc. 4. The bacillus of tuberculosis can be preserved intact for a whole year when mixed with water. It is probable, though not proved, that it has retained its virulence during that time. Thus, drinking water may become the means of propagating tuberculosis. It is probable that contaminated linen retains its virulence for five or six months. 5. Alcohol does not destroy the germ, and hard drinkers often suffer from tuberculosis. 6. Cod-liver oil, ozone, oxygenated preparations, and other similar remedies, have no effect in killing the bacillus, nor are benzoate of soda, salicylate of soda, sulphate of zinc and carbolic acid, iodide of silver, bromide, camphor, etc., of much greater use. They injure, perhaps, but do not absolutely destroy the bacillus, at least not in the doses that can be taken without danger. 7. A more decisive action may be attributed to creasote, eucalyptol, pure carbolic acid, the naphthols, and bichloride of mercury. 8. For disinfecting spittoons, carbolic acid solution at five per cent. is thought sufficient, and Dr. Sormani asserts that the breath never contains any bacillus. He also suggested that essences of turpentine or eucalyptol should be diffused in the house as an agent for the destruction of this special germ.—*Lancet*, September 20, 1884.

Gastrostomy for Stricture of the Œsophagus.—In a paper on this subject, read at the late annual meeting of the British Medical Association, Mr. John Fagan suggested the following rules regarding the performance of the operation of gastrostomy:

1. In cases in which the obstruction is partial, it should not be entertained in non-malignant cases so long as a bougie can be passed, or a tube worn to enable the patient to take sufficient nutriment. But should the passing or wearing of an instrument cause great irritation, while the difficulty in overcoming the obstruction is increasing, the operation may, I think, with justice be undertaken. For by it the affected parts are placed in a state of physiological rest; which tends not alone to the improvement of the part, but renders it more amenable to other forms of treatment.

2. In cases due to malignant obstruction, in which the dysphagia is becoming most painful and more marked, if the permanent wearing of a tube cannot be tolerated, there should be no time lost in performing a gastrostomy.

3. In cases in which the obstruction is almost complete, and in which in non-malignant cases bougies cannot be passed, and before the patient becomes too much exhausted and the digestive functions vitiated, the surgeon is fully justified in urging the operation.

4. In cases in which complete obstruction has existed for a short time, the patient's strength being fairly sustained by enemata, and there is no malignancy, the operation may be undertaken with hopes of improvement; in malignant cases, at this stage it should not be urged.

5. In the advanced stage of complete obstruction, no matter what the cause be, the operation should not be undertaken, for the patient, if he survive the immediate shock from it, cannot live more than a few days, that are passed in increased discomfort.—*British Medical Journal*, October 4, 1884.

THE MEDICAL NEWS.

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SATURDAY, OCTOBER 25, 1884.

THE DELIVERY OF THE PLACENTA.

THE proper management of the third stage of labor is one of the most important practical questions in obstetrics. Indeed, in the great majority of cases of labor the obstetrician has no more responsible duty than the delivery of the placenta; the French very expressively use the term *delivrance* for this concluding act of the drama of parturition.

Many a life has been lost by the obstetrician doing a wrong, or failing to do a right thing at the right time in regard to the separation and discharge of the after-birth; a uterus has been inverted by improper traction of the cord, or by pressure upon the fundus, a fatal hemorrhage has followed neglect to deliver the placenta, or a mortal septicæmia from the introduction of the hand into the uterus, and removal of the secundines in piecemeal, this removal then being usually incomplete. The famous and gifted Mary Wollstonecraft, wife of William Godwin, died from a mismanaged third stage of labor, and her case, so well detailed in the memoir of her husband, is a type of many others.

It is not surprising that a subject of such remarkable concern has engaged much professional thought, and given rise to much professional discussion. The method of delivering the placenta known as Credé's, was published to the profession several years ago, after its distinguished author had given much practical study to it. It was received with much favor, and was more or less generally adopted, so that almost every obstetrician was ready to cry out, *Io Credè!* But after a time the research of obstetric scholars proved that placental expression—for this is the essential idea in his method, though some of the details in its execution are peculiar, was not a new thing, for it had been advised and practised by some distinguished obstetric authorities in the eighteenth century. More recently one of our most scholarly obstetricians, Dr. George J. Engelmann, found that among some primitive peoples placental expression was the rule of practice, and thus, Credé was anticipated by savage tribes—in so far they were Credists without ever having heard the name of Credé, as were their ancestors before he was born. Finally, there were not wanting some who criticised and condemned the method advised by the Leipsic obstetrician, after having made use of it, a few even replacing it by absolute expectancy. Instead of crying, *Io Credè*, they denied owing him anything.

Contributions to the study of the subject, historical, theoretical, practical, and statistical abound, and the number seems to be constantly growing. Among recent ones to which our attention has been especially directed we may mention an elaborate monograph "De la Delivrance par Traction et par Expression," by Ribemont-Dessaignes; the "Removal of the After-birth," by Dr. Garrigues, published in the *American Journal of Obstetrics;* "Critical Notes on the Delivery of the Placenta," a paper of great interest and value read before the Ohio State Medical Society, by Dr. J. C. Reeve; a paper by Lumpe upon the "Physiology and Pathology of the After-birth Period," found in the *Archiv für Gynaekologie;* and the paper read by Professor Stadfeldt before the Copenhagen International Medical Congress, an abstract of which appeared in our issue of October 4, 1884.

As the distinguished author last referred to seems to give full endorsement to Credé's method, it may be well to bear in mind that others entirely dissent from it, and still others desire in its execution a change in the time of doing it. Ribemont-Dessaignes asserts, after a very patient and large study of the subject, that delivery by traction ought to be the rule, and delivery by expression the exception. Dr. Reeve remarks in his paper: "When Credé states that in two thousand labors the average duration of the third stage was only four minutes and a half, he writes down his own condemnation. This is not nature." Lumpe says that "the expression of the placenta should not be made immediately after the birth of the child, provided the conditions are normal; the after-birth pains should be allowed to act, and the delivery be made at the end of half an hour; it is then easier, and the woman is saved suffering." This conclusion Lumpe has drawn from his own experience, and he has become convinced by that experience that the removal of the after-birth is much easier if one delays expression until half an hour after the birth of the child.

Statistics prove that in almost all cases in which the expectant plan is followed, spontaneous delivery of the placenta occurs within two hours. Conceding that this plan involves no risks, the comfort of the patient and her relief from anxiety are considerations which the accoucheur cannot ignore, even if he may be so perfectly free from duties to others as to sacrifice two hours or more of his time for the tardy discharge of the placenta. Until the final act of labor is over, a woman cannot be made comfortable as to her body while her mind is in an anxious condition, lest some serious accident impends; and she is thus denied the rest she so much desires and so greatly needs. Even if there were no other grounds, these would be sufficient for rejecting the expectant method of treating the third stage of labor.

Immediate interference is also to be rejected, as well as the administration of ergot in normal cases. He who gives ergot to a woman in the third stage of labor must have some stronger reason for his action than simple delay in the expulsion of the placenta. If from all the cases in which the placenta was said to be adherent, those were eliminated in which ergot had been given, the number remaining would be very small.

We believe the best practice is not especially to observe the rules of Credé, but to obey those of the Dublin school—"to follow the uterus down" by one or by both hands adapted to its form and its lessening size with the expulsion of the child, and to keep up this moderate manual pressure, which should not be so strong as to give the patient suffering, the hand acting for a time as a sentinel and as a guard; and then, as soon as uterine contractions become pronounced, assisting by a firmer pressure in the expulsion of the placenta. For this assistance in discharging the placenta, a definite time cannot be laid down; but one acts with nature, whether the delay be ten, thirty, or sixty minutes. Most certainly there will be variations in this regard in different patients, and in the same patient in different labors —no time-table can be suggested which will be always applicable—nevertheless, adopting this method, the third stage of labor will in almost all cases be completed within half an hour.

THE COLLECTIVE INVESTIGATION OF DISEASE.

WE print in another column a note from the American representatives on the International Committee for the Collective Investigation of Disease, together with the statement prepared by the Secretary, to indicate the objects of the Committee.

We have, from the very commencement of the movement for a systematic collective investigation of disease, taken a warm interest in it; we regarded with favor the taking up of the subject by the American Medical Association; and we believe that the international organization is a step in the right direction. While there are certain diseases, or phases of disease, which are more or less peculiar to certain localities, and are therefore appropriate subjects for inquiry and investigation by local organizations especially, there are many others which extend throughout the civilized world and are thus proper subjects for international inquiry.

Immediate and striking results from collective research are not to be expected. Those who think that the work consists in preparing a list of questions, in scattering these broadcast among physicians, and in printing the answers as though they were so many votes, misapprehend the problem as it appears to us.

If the object of an international collective investigation committee were simply to obtain a greater number of answers to such questions as are contained in the schedules of queries relating to cholera, pneumonia, etc., already issued, it would be doing but a small part of the work which, as we conceive it, lies before such a committee. There is also to be kept in view the desirability of perfecting an organization by means of which we may hope, not merely to answer this or that particular set of questions, but to have at our command ultimately a corps of observers scattered all over the world, who may be called upon to aid in the solution of any problem; to create a new machine for investigation by means of which we may gather the scattered lines of force which at present are to a great extent wasted, and converge them in any desired direction or upon any given point. Furthermore, we may hope that such an organization, when perfected, will exercise a powerful educational influence throughout the world, serving not only to discover new truths, but to diffuse the knowledge of old ones, and to state with authority the probable conclusions which may be drawn and practically acted upon in what are for the present more or less doubtful points.

Its scope should embrace not only curative but also preventive medicine, and it may be hoped that it will in time afford a positive and scientific basis for a scheme of international polity as regards the prevention of the spread of infectious disease.

The perfecting of such an organization as this is not a simple matter; to get the right men into the right places will not be the work of a day or of a year; and it must not be forgotten that it cannot be done without pecuniary expense, which must in some way be provided for. We believe, however, that all these difficulties can be overcome. The work of arranging for preliminary organization is in good hands, and at the meeting of the next International Medical Congress we hope that the subject will receive special attention, and that the committee in charge of the matter will by that time be able to report satisfactory progress.

COXECTOMY FOR CONGENITAL DISLOCATION OF HIP.

Congenital dislocations of the head of the femur, especially when they have existed for some time, are notoriously unamenable to permanent relief, the means resorted to for this purpose being, as a rule, directed to limiting the tendency of the bone to further displacement by wearing a strap of webbing around the hips. Within the past few years, however, Esmarch cured a case by permanent extension, and Brodhurst had a successful result after drawing down the head of the bone into the acetabulum, through which the retracted muscles were rendered tense, when their tendons were freely divided subcutaneously. A groin-pad and a thigh-splint, worn for six weeks, effectually prevented subsequent displacement, and the patient was able to walk without the aid of artificial support.

At the recent *Versammlung der Deutscher Naturforscher und Aerzte in Magdeburg*, Dr. Heusner, of Barmen, demonstrated that such cases are open to more radical measures, and placed on record the first excision of the hip for congenital dislocation. The operation was done for excessive suffering in the left joint of a girl twenty years of age. The ligamentum teres was absent, the head of the femur was about as large as that of a child of six years, ovoidal in shape and much flattened, and its surface was uneven, and the neck of the bone formed an obtuse angle with the shaft. The acetabulum was fully developed and of normal size, although its rim was somewhat flattened and polished above and below. The head, neck, and nearly an inch of the shaft of the femur having been excised, the acetabulum was made deeper with the chisel and the parts brought into apposition. At the expiration of eleven weeks, with the aid of a cane, the patient was able to walk without fatigue for half an hour, the pain was relieved, and there was every prospect of future good use of the limb.

The case briefly narrated shows that the theoretical objection to operative interference in congenital dislocations of the hip, based upon the absence of a well-formed cotyloid cavity, is not well founded. Even if the acetabulum were superficial or deficient, a cavity of sufficient size to accommodate the divided shaft of the femur could be chiselled out of the ilium.

THE CORPUS LUTEUM.

Several interesting questions as to the formation of the corpus luteum are yet unsettled, or at least authorities differ concerning them. By some, for example, it is held that an intravesicular hemorrhage occurs, which contributes to the rupture of the vesicle, and that a blood-clot is, as a rule, found in the fresh corpus luteum; while others believe that this clot is exceptional, and when present hinders the development of the corpus luteum. The investigations of Dalton led him to conclude that in the human female a clot is usually found. From many examinations of the ovaries of lower animals—cows, sheep, and swine—made by ourselves years ago, we came to the conclusion that hemorrhage in the ripening of a Graafian vesicle was quite exceptional.

Benckiser has made, in a recent number of the *Archiv für Gynaekologie*, a very complete and careful study of the corpus luteum in swine, and he positively states that a "coagulum is an inconstant and unnecessary condition for the formation of the corpus luteum." He further says, that the large epithelial cells of the corpus luteum in swine come only from the internal theca of the follicle. He found in the ripe follicle a very well developed capillary vessel system between the internal theca and the membrana granulosa, with distinct nuclei in the vessel walls. In no normal follicle and in no stage was a homogeneous membrane seen between the internal theca and the granulosa. No lymph vessels were found in the structure of the corpus luteum at its highest development, a result which corresponds with that of Exner derived from his study of rabbits.

Benckiser explains the formation of the corpus luteum in swine as resulting from hypertrophy and hyperplasia of preëxisting elements—connective tissue cells, and bloodvessels—in the internal theca of the follicles, which already begin before the rupture of the follicle, and after this rapidly attain their highest point of development.

MR. VANDERBILT'S GIFT TO THE COLLEGE OF PHYSICIANS AND SURGEONS OF NEW YORK.

The recent generous gift of Mr. Wm. H. Vanderbilt to the College of Physicians and Surgeons of New York, is remarkable both for its great liberality and for the enlightened and far-seeing judgment which prompted the act. The donation amounts to half a million of dollars; of which a part has been appropriated to the purchase of land, while the remainder is to be expended in the erection and care of a suitable college building.

This project, we understand, has been in the mind of the donor for nearly a year. He looks upon the medical profession as so largely entrusted with the lives, health, and comfort of the community that it is for the interest of all that its practitioners should receive the best possible education; and he wished to supplement the individual exertions of the doctors for that end by such material aid as would enable them fully to carry out the necessary improvements in medical teaching. Viewed in this light, his donation is of much wider importance than the benefit which it confers on the particular institution endowed by it. It is an example and an admonition to the generous and public-spirited everywhere, that wealth, judiciously expended in the support and equipment of medical schools, is a public benefit; as much so as if it were devoted to the establishment of hospitals and dispensaries. In this instance, there is another piece of good judgment which we heartily commend. Instead of being carried away with the fancy of creating a new institution, of brilliant but indefinite and uncertain future, Mr. Vanderbilt has deemed it wiser and more practical to endow one already in existence, with such a history and reputation as to demonstrate its fitness for executing the trust imposed upon it.

The land selected for the new domicile of the College of Physicians and Surgeons comprises the western half of the block between 59th and 60th Streets and Ninth and Tenth Avenues, opposite the Roosevelt Hospital, making a plot a little over 350 feet in length by 200 feet in width. One advantage of this location is its proximity to the Roosevelt Hospital, the grounds of which embrace the entire block between 58th and 59th Streets and Ninth and Tenth Avenues. Work is already begun on an additional pavilion for this hospital, and the whole of its land will eventually be occupied in the same manner. The West Side Elevated Railroad will afford rapid communication between the College and the New York Hospital in 15th Street, and the Belt Surface Railroad, crossing the city through 59th Street, gives convenient and frequent access to the hospitals on the east side. The extent of the land now in possession of the College is much more than is needed for immediate building purposes. But this is one of the chief benefits to be derived from the endowment. Thirty years ago, when the College occupied its present building in 23d Street, no one could anticipate the increased demand which has now arisen for the accommodation of laboratories, clinics, and special forms and methods of instruction. It is reasonable to expect that the next thirty years will bring other requirements which are not foreseen to-day; and the College, with ample space at its command, will thus be enabled to develop its resources in an intelligent way, adding new departments, or enlarging the old, as experience shows them to be required.

We believe that no donation for an educational object has ever been made in this country which will bear better fruit than that made by Mr. Vanderbilt to the College of Physicians and Surgeons.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 16, 1884.

THE PRESIDENT, FORDYCE BARKER, M.D., LL.D., IN THE CHAIR.

DR. HARRY MARION SIMS presented to the Academy a lifelike and striking bronze

BUST OF THE LATE J. MARION SIMS, M.D.,

which he said he had had cast in Paris, during the past summer, from the marble bust made a few years ago by the eminent French sculptor, Du Bois. It was received on behalf of the Academy by the President in appropriate terms, and a resolution of thanks proposed by Dr. Wm. T. White was then unanimously adopted.

DR. WILLIAM H. DRAPER read an elaborate *Memoir of the late Prof. Willard Parker.*

The scientific paper of the evening was by DR. AMBROSE L. RANNEY on

THE THERAPEUTICAL EFFECTS OF THE INTERNAL ADMINISTRATION OF HOT WATER IN THE TREATMENT OF NERVOUS DISEASES.

Having spoken of the mutual dependence and relations of the abdominal, pelvic, and thoracic organs and of the nervous centres, he remarked by way of preface that the tendency of the present time, and especially in the field of neurology, seemed to be to discover and experiment with new drugs to the neglect of simple remedies, whose influence upon the system had never been thoroughly tested. Preëminently at the head of these he would place hot water.

That the benefits of this agent were appreciated by the laity seemed apparent from the fact of its general employment, for it could not be denied that thousands were taking it to-day. The rapid spread of this habit of drinking hot water, which seemed to indicate that the practice was really beneficial, he thought was due entirely to word of mouth, since, so far as he knew, but two articles upon the subject had as yet appeared in the medical journals, and it was impossible that they could have had such a widely extended influence. In no medical work was there any reference to the physiological or the therapeutical effects of the internal administration of hot water.

He then spoke of the different therapeutical effects of different degrees of heat when applied to living tissues; a moderate heat causing a determination of blood to the part, with dilatation of its bloodvessels; a higher degree of temperature, causing contraction of the bloodvessels and diminishing the amount of blood in the tissues; and intense heat, producing a very marked contraction in the bloodvessels of organs and tissues that lie adjacent to the part cauterized. The benefits that resulted from the internal use of hot water, he thought, must be due in part, at least, if not wholly, to heat. The following are the rules which he laid down for its administration:

(1) The water should be taken in doses of from one gobletful to one and a half; the doses being modified in accordance with its effects.

(2) It must be taken *hot* (from 110° to 150°), and, if necessary, fifteen minutes or more may be consumed in sipping a gobletful. Wooden cups prevent the water from cooling quickly. If preferred, the water may be flavored with lemon, sugar, salt, ginger, cinnamon, etc.; but, as a rule, this is entirely unnecessary. When constipation is obstinate, a teaspoonful of Carlsbad salts may be introduced into the morning dose.

(3) The water must be taken exactly an hour and a half before each meal, and again at bedtime.

(4) The temperature of the water should be increased as fast as the patient can bear it.

(5) The water must be continued regularly for at least six months in order to get its full effects.

(6) The dose should be determined largely by the specific gravity, and general character of the urine.

The object of the treatment should be to bring the specific gravity of the urine to the standard of health (1010–1022), and to keep it there.

(7) The use of cold fluids, in the form of beverages, must be absolutely prohibited.

(8) A restricted diet is often necessary to the full effects of the treatment in some forms of nervous derangements. With some patients Dr. Ranney said he forbade all meats, pastry, fresh bread in any form, and fats. In other instances, he employed the meat diet exclusively, the fatty parts being removed before cooking. The sour wines were not usually forbidden, nor was tea or coffee, unless they were apparently injurious to the patient. The condition of the subject, in respect to flesh, was to be the guide, as a rule, to the character of the diet prescribed; provided, that marked disturbances to digestion or dietetic symptoms were not to be combated.

Passing on to speak of the effects of hot water taken internally, he said, that after taking a glass of it a sense of warmth, unaccompanied by nausea, was experienced. It had also the effect of exciting peristalsis in the intestine, and eructatious were sometimes caused by it. In the next place, the skin soon showed the effect of heat; a gentle glow spreading over it. The extremities generally became warm, and the viscera were often relieved of engorgement. Perspiration not infrequently resulted from the increased supply of blood to the periphery. Thirdly, the kidneys exhibited marked effects; the quantity of urine being increased, and the proportion of solid ingredients also raised. If diabetes were present, however, the specific gravity, on the contrary, would become diminished. Two cases of diabetes, both of which, he believed, were of neurotic origin, had been cured by Dr. Ranney, by the use of hot water. Finally, the accessory organs of digestion, the liver and pancreas, were excited to increased activity, and flatulence and constipation were relieved.

Dr. Ranney then spoke of some of the cases in which he had used the hot water treatment with success. One was a case of chronic diarrhœa, with extreme nervous debility, which had been cured. The nervous system was especially susceptible to its effects, and hyperæmia and anæmia of the brain and spinal cord were often relieved by it. One lady under his care had been completely cured of neuralgic trouble which occurred in the form of intense paroxysms. In two cases of locomotor ataxia, there had been remarkable improvement. The patients, before taking the hot water, had not improved under the use of nitrate of silver, iodide of potassium, and the application of the actual cautery; but these agents were also kept up after the water treatment was commenced. In one of the cases diplopia and other disturbances of vision had entirely disappeared, while the lancinating pains had also subsided under the use of hot water. Dr. Ranney did not believe at all in the syphilitic origin of ataxia, and thought the etiology of the disease was as yet entirely undetermined. It seemed altogether probable, however, that the continued administration of hot water would sometimes have the effect of arresting the process of sclerosis in the posterior columns and other degenerations of the cord. During the last five years he had treated successfully with this agent, three cases of gastralgia, in which the paroxysms of pain were of long standing and very great severity. In one of these the diagnosis of cancer of the stomach had been made by the physician who sent the patient to Dr. Ranney. In two cases of local anæmia of the brain with transient aphasia, cures had been effected, and a number of cases of neurasthesia had been completely relieved. In this class of cases tonics were combined with the hot water treatment. In regard to the effect of the treatment on epilepsy and chorea, he had been able to arrive at no positive conclusions.

The theory on which Dr. Ranney based the action of the internal use of hot water in nervous affections was, that the nerves of the stomach, and possibly the solar plexus (the precise relation of which to the central system was not yet determined), were directly influenced by heat introduced into the empty organ. This seemed probable from the results observed in the case of electricity. There was one good thing, at least, about the use of hot water, and that was, that the remedy could do no harm, if it did not benefit. Its effects were somewhat slow, but they were probably permanent. As to the drinking of ice water, he could not condemn the practice too strongly, and he believed that it had been more injurious to the nervous systems of the American people than either tobacco or alcohol. In regard to the good effects which had been observed from the drinking of hot mineral waters in Europe and this country, he thought that the benefit was largely due to the fact that the water was hot. In addition to the heat, the restricted diet, the mental and physical rest, and the general observance of hygienic laws, no doubt contributed to the good result.

The practice of drinking hot water was not to be discountenanced by the medical profession, he thought, merely because it had of late become so popular among the laity, and he then proceeded to answer some of the objections which might be raised against its use.

(1) It might be urged that the remedy was not a new one; but this afforded no good ground for disregarding it, if it really proved of practical service.

(2) That some of the benefits mentioned as resulting from the use of hot water were, in reality, due to the accessory measures employed. In many of the cases, however, hot water was not resorted to until other treatment had been continued for some time without result, and the benefit was marked as soon as this was commenced.

(3) That in many cases the results were not immediate. To answer this, it was only necessary to say that it had been expressly stated that it sometimes took as long as six months to secure the full effects of the remedy.

(4) That patients might have acute attacks of suffering which the hot water would not relieve. The treatment suggested, however, did not preclude the occasional resort to opiates and other similar agents in certain contingencies.

Finally, Dr. Ranney advised a thorough trial of the hot water treatment on the following grounds:

(1) It is harmless.

(2) Its effects are comparatively uniform, provided it be kept up for a sufficient time.

(3) It seems to have a curative effect in the earlier stages of certain organic nervous affections by arresting the advance of the degenerative processes.

(4) Its effects are not merely transient.

(5) It may be employed as an adjunct to other treatment.

(6) It has a marked effect in abnormal vascular conditions of the nerve centres, whether these are hyperæmic or anæmic, and is very useful in headache, vertigo, and neuralgia.

(7) In diabetes and some kidney affections it is attended with happy results. It ordinarily increases the amount of urinary salts.

(8) The functions of the accessory organs of digestion are stimulated by it.

(9) It stimulates the action of the skin, and renders the cutaneous circulation uniform.

(10) It often has the effect of preventing sea-sickness. When used for this purpose, the hot water should be taken regularly for from four to six weeks before beginning an ocean voyage.

DR. E. C. SEGUIN opened the discussion by remarking that his experience with the use of hot water was very limited, and he had not employed it at all in cases of organic disease of the nervous system. There were, however, several points touched upon which seemed to him open to discussion. And, *first*, as to the quality of the agent. Dr. Ranney had classified the degrees of heat as warm, hot, very hot, and intensely hot; the latter degree producing contraction of the capillaries, and typified by the action of the actual cautery. He thought, however, that water which, when poured out into a cup, was at a temperature of from 110° to 150°, could hardly be characterized as a very hot agent by the time it reached the stomach. The temperature must necessarily be greatly reduced in the pouring out, in the drinking, and in the passage down the œsophagus.

As to the cases referred to by Dr. Ranney, a large proportion of them seemed to be instances of neurasthenia, cerebral hyperæmia, etc., which, of all classes of neurological cases, were the most doubtful. The most of these, according to some authorities, indeed, were nothing but cases of malassimilation or lithæmia, attended with certain nervous symptoms. That this view was, in a certain measure at all events, correct, seemed probable, from the fact that Dr. Ranney did not depend on the hot water alone, but employed a combined treatment; laying stress, for instance, on the diet, from which farinaceous and saccharine articles of food were often excluded.

It occurred to him also that possibly the good effect noticed was due, not to the hot water, but simply to the water which the patients took. It had first been pointed out a number of years ago by Dr. McElroy, of Zanesville, Ohio, that in cases of neurasthenia in females, hydroadipsia, or lack of thirst, was often a characteristic symptom, and this was afterwards confirmed by the observations of Dr. S. G. Webber, of Boston, and others. The use of water, whether cold or hot, would thus be sufficient of itself to cure some cases of neurasthenia, and so-called cerebral hyperæmia, by supplying the system with the amount of fluid which it required. Dr. Ranney had furthermore stated that the condition of the urinary secretion (its quantity, specific gravity, and the amount and character of its solid constituents) constituted his guide in the administration of hot water; and this, he thought, was also a corroboration of the theory which he was now suggesting. In the treatment of organic diseases he had had, as he before remarked, no experience whatever.

Dr. Ranney's theory was, that the effects noted after the administration of hot water were due to reflex action from the walls of the stomach, but if these were due simply to the liquid taken into the system, the share which reflex action had in producing them must necessarily be exceedingly small. The direct effects of heat were recognized as sufficiently patent, but he could see how such effects could be expected from water whose temperature must be much lowered by the time it reached the stomach. As to ice water, he could see no objection to its use, since such was the equalizing power of the system that its temperature became much elevated by its passage through the œsophagus. In concluding, he said he would like to make a defence of cold water, for, in point of fact, he had obtained as good results with it as Dr. Ranney had with hot water. It was his practice to order it to be taken with the meals, on the principle that the gastric juice was said to be more active when diluted.

DR. AMIDON said that in purely nervous diseases he had had no experience with the use of hot water, but in the treatment of nervous phenomena in connection with disturbances of digestion, and in gouty and rheumatic cases he had employed it to a considerable extent. He agreed with the last speaker that its action as a derivative and counter-irritant, when taken into the stomach, must be extremely feeble, and this seemed to be corroborated by the statement of Dr. Ranney, that it took six months for the accomplishment of the results by the remedy. In his experience counter-irritants and derivatives always acted very promptly, and he believed therefore, with Dr. Seguin, that the good effect of hot water was due to its diluent properties, which would satisfactorily explain the gradual manner in which this was produced.

DR. PUTZEL thought that the theory advanced proved too much, since we were asked to believe that the action of the remedy was beneficial in such opposite conditions as anæmia and hyperæmia. If hot water produced an effect on the cerebral circulation (a fact that was not yet proved), it would do harm in anæmia if it did good in hyperæmia, and *vice versâ*. He agreed with Dr. Amidon that agents of this kind always acted promptly. Any irritant after a time would lose its effect, and cease to be an irritant at all, unless, perhaps, the dose was markedly increased. If the theory of reflex irritation were true, the best effects from the use of hot water ought to be obtained at first. In the next place, he could not see how an agent whose action on the walls of the stomach was so brief could have any effect in such organic diseases as locomotor ataxia. In one case it had been mentioned that diplopia disappeared very rapidly under the use of the hot water, but he believed that it was not an unusual thing to see ataxic patients recover promptly from diplopia under other treatment or no treatment at all. It seemed to him merely a coincidence and nothing more.

DR. BIRDSALL said that he believed in the efficacy of hot water as well as cold, and thought that heat was one of the principal agents in producing the therapeutic effect. He had been disappointed, however, in the paper in not hearing statistics of a clear character. It was true that

Dr. Ranney had used hot water, but he had not used it alone, which he thought ought to have been done to make his contribution of any value. In all his cases, in addition to the hot water, agents had been employed which had been found of service in the affections in question. To his ataxic patients, for instance, he had given nitrate of silver, which was universally recognized as a valuable agent in tabes. None of his cases, therefore, could be used for statistical purposes. In regard to the use of hot water in functional disturbances of the nervous system, there were so many complicating circumstances that its effect was not certain, and it was perhaps difficult to decide whether any good resulting from it was due to the fact that it was hot or to the merely diluent action of the water. Dr. Seguin had claimed that the water must necessarily be considerably cooled by the time it reached the stomach, but it was by no means certain, he thought, that the effects of the heated water did not commence the moment it came in contact with the mucous membrane of the mouth. In gynecological practice the beneficial results of the action of hot water upon the mucous membrane of the genital tract, had long been recognized. He was not satisfied that no effect was produced upon the vaso-motor system by hot water taken internally, and he believed that the central nervous system was also more or less affected by such peripheral irritation.

Dr. C. L. Dana stated that his experience with the use of hot water had been confined to chronic cases in hysterical and extremely nervous women with gastric disturbances, and that he had usually combined with it a more or less exclusively meat diet. He had to confess, however, that he had been somewhat disappointed at the results obtained. Some of the symptoms, it was true, had seemed to be relieved by the treatment; but the general condition of the patients had not improved. Still. he thought that his failures were perhaps due to the fact that he had not employed the remedy with sufficient care, or persevered in its use for a sufficiently long period. Apart from any theories, he thought that the Academy was indebted to Dr. Ranney for calling attention to the benefits of the systematic long-continued use of this remedy. His views were in accordance with those of Wilkes, who long ago had noted that many of the agents which are most beneficial in nervous affections were those whose action was gradual, and which did not produce a direct effect upon the nervous centres.

Dr. J. Leonard Corning considered that the paper was a timely one, as so many at the present time were talking about the "Salisbury treatment." His own experience with the use of hot water extended only to cases of neurasthenia with concomitant digestive troubles. Such neurasthenic cases, with malnutrition of the nervous centres, might, however, exist without any such complication. In the former class of cases he had found it of service; and, without theorizing upon the matter at all, he had attributed the benefit to the direct effect of heat upon the stomach. But he had never seen it relieve a case of cerebral hyperæmia; a condition which could be more successfully treated by such agents as rarefied baths and the application of electricity to the sympathetic in the neck, as recommended by Drs. Beard and Rockwell. He could not agree with Dr. Ranney, that the results of the hot water treatment were so long deferred, since, in his own cases, much benefit had been derived from it within two months, or even six weeks.

Dr. John Scott, of San Francisco, said that he could testify to the very great usefulness of hot water in checking emesis, particularly after the inhalation of ether, as well as in many derangements of the digestive function. As a rule, in the latter, however, he preferred to employ a milk diet, which, in his hands, had proved of the greatest possible service in lithæmia, and also in some affections of the kidneys.

Dr. Ranney thought that Dr. Seguin was mistaken in supposing that merely the effect of simple warmth was produced by the hot water as he ordered it. He directed the patient to take it as hot as it could possibly be borne by sipping it with a teaspoon. He had mentioned the limits of 110° and 150° as those within which its use should be commenced. A few individuals might perhaps be able to take it at a higher temperature than 150°, though he did not think there were many such; and it was never to be taken under any circumstances at a lower temperature than 110°. It had been objected that diet and medicinal agents had been employed, as well as the hot water; but in almost every instance the diet had been restricted and medicines used before the hot water was commenced, without any good result. In one of the cases of diabetes to which he had reference, the patient had long been on a restricted diet, while the quantity of sugar still continued the same; but within three weeks after he began to take the hot water the sugar ceased altogether. As to the point that it was simply the water, and not the temperature of the latter, which produced the good effect, he thought there could be no possible question about this in the mind of any one who had been accustomed to taking hot water in the manner that he had advised. A diuretic effect, for instance, could be obtained by four goblets of hot water a day, which a gallon or even more of cold water would never produce. It was a remarkable fact, also, that hot water satisfied thirst much better than cold. Thirst, indeed, was never experienced by those in the habit of using hot water habitually. Hot water not only had a diuretic effect, but it relieved the irritating character of the urine, and he was at present employing it with happy effect for this purpose in a case of chronic cystitis. Dr. Amidon and some of the other speakers had made a mistake in supposing that he had meant that hot water acted only in a very gradual manner. This agent had a very rapid action; though it often took six months to get its full effect. But while it sometimes took several months before there was decided improvement in the nervous symptoms, the effect on the circulation of the skin and on the kidneys was immediate. To the objection of Dr. Putzel, that the remedy could not do good in both hyperæmia and anæmia, he would reply, that it was well known that certain conditions of the abdominal viscera produced in some individuals cerebral hyperæmia, and in others an exactly opposite condition. The same thing was observed in the effect of alcohol on different individuals. The tendency of the use of hot water certainly was to restore the normal condition of the cerebral circulation, however its action was to be explained.

Dr. T. Henry Burchard said he should like to ask Dr. Ranney whether he had ever observed two very serious results of the prolonged use of hot water internally. The first was a marked loss of power of absorption and assimilation, with rapid inanition. The second was a tendency to internal hemorrhages, such as gastric and intestinal. In his summer practice at Saratoga, he had noticed one or the other of these effects in a number of instances, and his observations had also been confirmed by those of the late Dr. Frederick D. Lente.

Dr. Ranney said that he had never seen or previously heard of any such results as these from the use of hot water.

A NEW LOCAL ANÆSTHETIC.

Dr. C. R. Agnew stated that during the past week he had obtained, in fifteen or sixteen cases, results which were most astonishing from the use of a new local anæsthetic, to which attention had been called at the Heidelberg Ophthalmological Congress. This was the hydrochlorate of cocaine, and he could not but feel that nothing had been given to surgery of more practical interest since the discovery of anæsthesia by ether and chloroform. He had employed a two per cent. watery solution of the drug, and found that a drop of this produced insensibility of the scleral conjunctiva within two or three minutes. When an operation was to be performed on the eye, he said he used three drops at intervals, during the fifteen minutes preceding the operation, and he then described an operation for the removal of cataract by von Graefe's method, which he had performed that afternoon upon an aged female, at the Manhattan Hospital. At 2.59 P.M., the first drop of the anæsthetic solution was put in the eye, at 3.4 the second, and at 3.6 the third. The operation was then performed, and at 3.15 the bandage was placed over the eye; the result, of coure, not being jeopardized by the unpleasant results which sometimes followed the use of the ordinary general anæsthetics.

The President asked whether the anæsthetic could be used in other operations than upon the eye; to which Dr. Agnew replied that that remained to be proved. He thought that after the first incision in an operation, the solution might be dropped into the wound with the effect of rendering the parts insensible to pain.

Dr. Burchard said that at the Presbyterian Hospital a felon had been opened without pain after the patient had held the affected finger in the cocaine solution for some time.

Dr. Birdsall said that the benumbing effect of erythroxylon coca upon mucous membranes had been known for some time, and he had been in the habit of using it sometimes for this purpose in acute catarrh; but he had never before heard of the agent being used as an anæsthetic for surgical purposes.

Dr. Agnew said that in the eye the drug caused a second effect, viz., mydriasis. The anæsthesia produced by it was apparently of not very long duration. In one instance, when the eye had been rendered insensible at the end of fifteen minutes, the operation had been postponed for half an hour, when it was found that the anæsthetic effect had passed off, and it was necessary to renew the drops.

At the conclusion of his remarks Dr. Agnew gave a practical demonstration of the anæsthetic powers of the cocaine as applied to the eye. In the case of two gentlemen present, who submitted to the test, he was able to grasp the conjunctiva with a pair of forceps, and move it backwards and forwards without causing any inconvenience; a procedure which under ordinary circumstances would have given rise to intense suffering. The Academy then adjourned.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, October 2, 1884.

The President, R. A. Cleemann, M.D., in the Chair.

Dr. Wm. Goodell exhibited a

DERMOID CYST OF THE RIGHT OVARY.

A saleswoman, aged twenty-seven, was obliged to give up her situation, because she found herself unable to stand for any length of time. Her physician discovered a pelvic tumor, and called in Dr. Goodell to see her. The diagnosis was obscure, but he leaned towards a fibroid degeneration of the right ovary. The woman was otherwise well, suffering no pain whatever, except when she was in the upright position. The operation was performed on September 8th, and the tumor turned out to be a dermoid cyst. Being enveloped in the broad ligament it was removed with difficulty. It is stuffed with hair and contains a plate of bone, the sharp edge of which was readily felt per vaginam; but it threw no light on the diagnosis, as it was taken for a fibroid spur. His patient did uniformly well, and is now out of bed. He stated that in his experience these tumors are very vulnerable, and often resent even so slight an operation as aspiration; inflammation and suppuration quickly setting in. A physician had lately brought to his office a young woman who had been tapped last June with a trocar. Long hairs and much sebaceous matter escaped through the opening, which had not yet healed up, and it was for this reason that he had been consulted. Upon passing in a uterine sound he struck a foreign body, which from its density and the sharp click it gave, he was disposed to think was a tooth. He advised dilatation of the fistulous tract and the removal of the offending body.

TWO CASES OF OÖPHORECTOMY.

Dr. Goodell also exhibited the ovaries which he had removed on September 17th and 29th from two patients, who also were doing well. He stated that the amount of tissue-change in these ovaries was very slight, and yet the suffering of each patient had been great. One had been an invalid for several years, and bedridden for the past six months. She had lost much flesh, and was always groaning from left ovarian pain, unless under the influence of large doses of morphia, administered hypodermically. The left ovary was found to be undergoing cystic degeneration, but the right one was so sound that in its removal he was glad to have the backing of Prof. W. S. Playfair, of London, who was present at the operation. For he believed that in most cases needing oöphorectomy the results usually showed failures unless both ovaries were removed and the menopause established. Convalescence after the operation had been retarded by great and painful swelling of both parotid glands, which developed without any marked rise in the temperature, and without acceleration of pulse, and declined without suppuration, behaving exactly like mumps. This made his third case of parotitis following the removal of the ovaries. Not one had ended fatally, and from the very slight febrile movement, he thought that the complication was not symptomatic—as in blood-poisoning—but sympathetic, and that a strong kinship, recognized by laymen, existed between the sexual organs and the cervical glands. Since the operation all pelvic pain had ceased.

The other patient was a poor woman aged thirty, the mother of seven children. She was sent to him by Dr. George S. Hull, of Chambersburg, Pa. Three years ago she began to suffer from double ovaralgia. The pain never left her wholly, but it began to increase in severity a week before the period, culminated during the flux, and faded off afterwards. Large doses of anodynes were also needed in this case, and she was unable to work. The case was clearly one of ovarian dysmenorrhœa, and he believed she would be permanently cured.

Dr. Charles H. Thomas asked Dr. Goodell his experience of the result of oöphorectomy. What proportion of cases are relieved?

Dr. Goodell could not reply definitely. He intends to report his cases before this Society at some future time. In the majority of cases menstruation ceases, and that element of trouble being removed, the patient is to that extent always improved. The neurasthenia resulting from previous suffering may remain, but it is far more amenable to treatment after the cause has been taken away. One such case has occurred to him recently. Dysmenorrhœa caused a virtual insanity, with a mind constantly wandering. The removal of the ovaries at once cured the dysmenorrhœa. The patient is now able again to walk, and the mind is improving. The operation removes the major element.

Dr. Thomas has now under his care a case which he thinks typical. The patient is a literary woman, overworked, and crushed by family anxieties and depressing emotions. He prescribed rest and feeding. Massage proved of but little use, and electricity yielded negative results. Forced feeding became impossible. During menstruation she suffered for two or three hours with moderate dysmenorrhœa. Signs of ovaritis developed, with swelling and hardening in the right iliac region. The patient was etherized, and a careful examination resulted in finding nothing materially wrong. As soon as anæsthesia was complete, all the induration and tumefaction disappeared. There was an ulcer of the rectum and moderate anteflexion of the uterus. The ulcer has since been cured, but there is no sensible relief. She suffers from a violent pain in the right ovary, extending to the coccyx and across the abdomen; it is cutting in its character at all times, and terribly severe. Formerly it ceased at night, but does not now. Hypodermic injections of morphia night and morning are necessary. Riding increases the pain, which often extends down the right leg. She cannot sit up long without increasing the pain, which is evidently getting worse day by day. She has been totally disabled for nearly ten months. Is this pain hysterical? Can it be relieved by oöphorectomy?

Dr. Goodell remarked that oöphorectomy is, in any case, a question requiring serious consideration. In the cases just related by him, the patients had neither the means nor the time for prolonged treatment. Whenever possible, everything should be tried before resorting to an operation. One bedridden case under his care, very analogous to Dr. Thomas's, had been relieved by the long-continued use of the constant current passed through the affected ovary. A feeble current was kept up for many hours, sometimes for a whole night at a time. The patient ultimately got well, bore several children afterwards, and is now earning her living by teaching.

Dr. Charles Meigs Wilson presented

OBSERVATIONS FROM THE STUDY OF ONE HUNDRED AND FORTY-TWO CASES OF HYSTERO-TRACHELORRHAPHY.

Though much has been written on this subject in the past few years, I trust a description of special instruments, and a summary of the histories of one hundred and forty-two cases, will not be amiss. In view of the exhaustive treatment the subject has received in the hands of many observers, I hesitate to report my own limited experience.

One hundred and four of these cases occurred in the practice of Dr. E. Wilson: two in my own, and the others I witnessed as assistant either in hospital or private practice. I regret that circumstances prevented me from obtaining a full history in all the cases. No one should hesitate performing the operation, or be unable to recognize the lesion. Yet very frequently gynecologists have sent to them, either for an opinion or operation, cases diagnosticated as eroding ulcers, fungoid vegetations, cancer, etc., which, when the patient is properly examined, prove to be cases of laceration. The touch alone is sufficient to establish the existence of the lesion. If corroborative evidence is required, the patient should be placed in the knee-chest position, and the uterus exposed with a Sims's speculum; for in this position, if each everted lip be grasped with a tenaculum, by gentle manipulation the natural contour of the cervix can be restored. If this simple feat can be accomplished, the diagnosis is at once established; for, in malignant disease, *ulcerations* of the os, etc., this cannot be done. Reeves Jackson considers this test infallible. Formerly many cases of laceration were comprehended under the generic term ulcer. But the description of the lesion and the operation by Dr. Emmet, has settled forever the "well-worn controversy which so long divided medical opinion concerning the etiology and pathology of the so-called ulceration of the cervix uteri."

Oftentimes useless and injurious applications are made to the cervix, because the gentlemen having the medical care of the cases do not understand that the cervix is torn. The old-fashioned tubular speculum is still too frequently used. It is now generally conceded that it is useless except when *harsh* treatment is to be applied to the cervix without injury to the vagina. The tubular speculum separates the already everted lips, and makes the laceration assume a more angry appearance. Thus faulty methods of examination often obscure the diagnosis. Another difficulty with many physicians is that the symptoms of which the patient complains are too apt to be regarded as the expression of some malady in which the uterus is not involved, unless, indeed, they complain of some vaginal discharge (a condition rarely observed). Again, the train of symptoms which belong to laceration belong equally to many other uterine ailments, and nothing but a carefully conducted examination can demonstrate that such is the case. The anæmia, debility, and other results of laceration, like the results of many other pathological conditions of the pelvic viscera, are often treated by a course of tonics, whilst the underlying cause of all the mischief goes on with its destructive work.

When a woman consults a physician, complaining of any of the more marked symptoms, such as cranial, rectal, vesical, or pelvic pain, a feeling of weight about the uterus, disordered menstruation, and leucorrhœal discharge, a vaginal examination should be considered an "imperative and essential prerequisite to treatment." The best of investigators is always at hand, namely, the index finger, which, says one of the masters of gynecic surgery, "when properly educated, and used to the full extent of its capability, there is hardly any of the pathological conditions of the pelvic organs in woman which can escape its detective powers."

Simpson in England, and Gardner in this country, first called attention to laceration of the cervix. Emmet, as he himself says in his book, accidentally discovered the lesion in 1862, and devised the operation for its relief. To him belongs the credit of revolutionizing gynecic surgery. Parturition is the chief cause of the lesion. The pressure of the child's head alone, especially if it be a large one; upon the os, may, even in a normal labor, be sufficient to lacerate it. If the os be rigid, or, as frequently happens, be both rigid and attenuated, the danger is, of course, increased. If the longitudinal and oblique fibres of the uterus have greater contractile force than the circular fibres of the lower segment of the uterus have expansive power, the force of the contraction of the former exerted upon the fœtal body, which rests upon and is engaged with the latter, may lacerate them owing to their non-expansion. In premature labor, the circular fibres of the os not being ready for the dilatation necessary to permit the egress of the contents of the uterus, may give way, *i. e.*, there may be sufficient irritation of the uterus to expel its contents by contracting the fundus, but not enough to expand the os. Meddlesome midwifery is a prime cause; by which term I mean the practice of trying to force back from the presenting portion of the child the margin of the os, without waiting for it to dilate properly; the desire to expedite the labor in every possible way; the premature rupture of the membranes—the physician forgetting that nature's dilator, the "bag of waters," is the best of all. Experience teaches that all labors in which the membranes have been ruptured prematurely, either accidentally or purposely, are apt to be complicated by some laceration of the obstetric canal, especially of the cervix. Unnecessary and unscientific application of the forceps, and traction made with them without a proper knowledge of the pelvic canal and outlet is another factor. That the forceps is responsible for many cases of laceration, there can be no doubt. When applied high up or within the uterus, they are exceedingly apt to produce tearing of the cervix. Observations made by Dr. Mundé at the Mt. Sinai Hospital, New York, showed 119 cases of laceration in 700 women examined. Dr. Hanks, of the Demilt Hospital, found only eight per cent. troubled with lacerations. The Mt. Sinai is a Jewish institution, and most of its patients Hebrews. These are generally attended by midwives. The Demilt is patronized by the poor of the city generally, and the patients are mostly attended by young graduates, who frequently use the forceps. As far as these observations go, they show that the forceps, even in inexperienced hands, do not do as much to produce laceration as the often untimely interference of ignorant midwives. Prof. Gross, in one of the last papers which he wrote, spoke of the frequency with which the forceps were applied, strongly condemning this practice, and very justly attributing many of the cases of laceration of the cervix to it. He formulated his views in the words, "The principle causes of laceration are precipitate labor, labor attended with rigidity of the mouth of the womb, and *instrumental* labor." Dr. Fundenberg, in an article which appeared in the *Pittsburg Medical Journal*, makes use of this positive language: "I believe that the forceps, when properly applied, is a preventive of laceration of the cervix. . . . When carefully introduced, for instance, into a rigid os, dilated only sufficiently to receive a narrow blade, the waters being discharged, it preserves the cervix by its inclined plane from sudden impulse, and, imitating the bag of waters in its wedge-like and outward action, it dilates with great and continuous power, with any desirable amount of slowness, and with very great safety." In the one hundred and forty-two cases seen by the writer, the forceps had been used in forty-nine, presumably from the account of the patients at the labor from which their distress dated. Did space permit, I should like to quote from other papers in reference to this question. Suffice it to say that the maladroit use of the forceps is responsible for many cases of laceration.

The breech presentation is another factor, because of the necessity of rapidly delivering the head. The cervix may also be torn by the shoulders after the head has passed safely through. The injurious practice of giving large and frequent doses of ergot prior to the expulsion of the fœtus, is another cause; so too are abortions. The predisposing causes include the various forms of induration, whether caused by hyperplastic deposit or malignant disease, all affections of the cervix producing tissue-softening, such as epithelioma, or any condition interfering with the natural elasticity of the part, as the cicatrices of previous surgical procedures, or, as happened in two of the cases the writer saw, of cauterizations, and any syphilitic or strumous taint, giving the uterus lack of tone. Dr. E. Wilson lays great stress on the muscular depravity, the result of a constitutional syphilitic taint, and the consequent emaciated condition of the os. This muscular degeneration may be the result of many pathological conditions. For example, anæmia, malnutrition, phthisis, and the like. Again, when the uterus is in a state of constant activity, owing to frequent gestation, it is liable to lose tone, and thus pave the way for the exciting cause to light up the trouble. Women are more apt to meet with this accident at the time of their first delivery than subsequently. It occurs also more frequently in rapid labors.

Dr. Emmet believes that partial laceration takes place at the first delivery. Dr. Goodell, Dr. Pallen, and Dr. Mundé record it as being exceedingly common. In two hundred women with uterine disease examined by the writer, nineteen had laceration of the cervix. The lacerations may extend through any portion of either lip. The writer has found the bilateral to be the most common—the rent being greater upon the left side—and laceration through the posterior lip the rarest form. The fact that a laceration has taken place is seldom noticed at the time of its occurrence. When an examination is made at the completion of the delivery the parts are so enlarged, soft, and yielding, and the os so patulous that it is difficult to detect a laceration. But if a tear has occurred the woman soon begins to complain of symptoms which are well-nigh pathognomonic. Shortly after she rises from her bed and resumes her ordinary household duties, she notices a more or less constant and generally increasing leucorrhœal discharge. This discharge is thick, viscid, and glairy, and sometimes tinged with blood. Sometimes, though rarely, this discharge is absent, or after a time disappears. Pain is a prominent symptom. It is generally of a dull and aching character. It is frequently referred to the lumbar region. Headache is a marked symptom. There is a peculiar sense of weight about the uterus, which is increased along with the pain after exertion. This feeling is augmented when the woman assumes the erect posture. The menstrual flow is, as a rule, increased. It is profuse, longer in duration, and comes on after shorter intervals. There is generally a nasty, glairy, and sometimes semi-purulent discharge during the catamenial intermission. My own observation has taught me that there is generally an increase in duration and amount. When the laceration is recent the increase is so small that it is hardly noticed, but as a rule it increases steadily, until it sometimes assumes the character of a sudden and violent hemorrhage. Patients generally suffer with a feeling of malaise. The general health soon becomes impaired. The digestive system is often the first to suffer. Sexual appetite is usually impaired, sometimes abolished, its gratification always attended with great pain. Insomnia is often present, together with other symptoms of a nervous character. The writer had seen one case in which hystero-epilepsy was a prominent symptom. The symptoms are usually commensurate with the extent of the eversion of the lining membrane of the cervical canal. This membrane when thus exposed loses its delicate epithelial coat, and it chafes against the posterior wall of the vagina. This irritates and inflames the raw surfaces. Hypostatic congestion and engorgement ensue. This prevents proper involution of the uterus, and the parts remain enlarged and soft. The heavy uterus, inadequately sustained by its supports, falls to the floor of the pelvis, dragging the upper portion of the vagina with it. This makes the cervix look elongated, when in reality it is shortened. Sometimes cicatrization takes place, and often this plug of cicatricial tissue gives rise to symptoms more distressing than when the parts remain ununited. The mental symptoms are sometimes very grave, amounting to such a degree of mental perturbation as to threaten the sanity of the patient. One of Dr. E. Wilson's patients was for some months in an insane asylum. After her cervix was restored her symptoms gradually subsided, and eventually, in the space of six weeks, entirely disappeared. This woman was deprived of her liberty because her friends refused to have the operation done. Another woman in his practice, a subject of melancholia with uterine symptoms, came very near being spayed. After her cervix was repaired, her melancholia and other symptoms vanished entirely. A very curious case of persistent salivation, apparently due to laceration, at all events which was cured by restoring the cervix, is reported by Dr. Longyear in vol. xvi., No. 1, of the *American Journal of Obstetrics*. Did space permit, I might cite other interesting cases.

If the foregoing views in reference to laceration are correct, the indications for treatment are certainly clear. Having decided to resort to surgical means for the relief of his patient, the surgeon must consider whether the patient is in a proper state of health to operate. The same conditions which militate against other surgical procedures are equally operative in cases of trachelorrhaphy. Where the uterus is bound down by adhesions, or severe inflammation exists, it is dangerous to operate. One case which came under my observation nearly perished from an attack of peritonitis, because forcible traction was made to draw down to the ostium vagina a uterus which was fixed and immobile, owing to adhesions, the result of a former attack of peritonitis. For operating, the patient should be placed in the dorsal position, with her buttocks well drawn down to the edge of the table, an assistant taking charge of each limb. The cervix is exposed with a Sims's speculum, grasped with a volsellum, and gently brought to the ostium vagina. The needle, having an appropriate curve, is passed through the cervix in the median line, from above downwards; it is then armed with a stout piece of silk cord and withdrawn. A blunt-pointed tenaculum is then passed up the cervical canal until it engages the cord, a loop of which is withdrawn. This loop is divided and united to each free end, thus forming two loops, the one controlling the anterior, the other the posterior lip. The margins of the tear are now freshened, care being taken to extend the line of incision beyond the angle of the rent, and to cut out any cicatricial tissue that may be present. The hemorrhage, which is never very profuse, and which, by depleting the vessels of the uterus, tends to ameliorate the inflammatory conditions often present, is easily controlled by the application of hot sponges. Any one who has seen many operations must have noticed the sudden blanching and softening of the cervix, due to the bleeding attending the operation. The late Prof. Gross thought that the benefit of the operation was largely due to this local depletion. I have seen the circumflex artery cut on several occasions, but it never required a ligature to control it. Care should be taken to make the posterior angle of the plug of tissue removed sufficiently acute to allow of the proper approximation of the lips without tension on the sutures. The lower lip should be denuded first, otherwise the hemorrhage will obscure the field. Sufficient mucous membrane should be preserved in the centre to reform the canal. This is not always possible, and when it cannot be done, a small piece of carbolized lint should be inserted to prevent union in the line of the canal. This should be removed at the end of twenty-four hours, otherwise the canal may be occluded. This accident happened in three of the cases of Dr. E. Wilson's series, and the occlusion was overcome with some difficulty. All clots having been removed, and exact hæmostasis having been maintained for some moments, the wound is closed by inserting a needle through both lips, arming it with a wire suture, withdrawing it, freeing the wire, and clamping it with a shot. The ends are then cut off close to the shot. The sutures should be removed by the tenth day. (He then exhibited some scissors devised for that purpose.) The vagina should be syringed twice daily with a solution of the mercuric bichloride (1 to 2000). A Sims's speculum should be used to remove the stitches, as there is danger of tearing the freshly united surfaces apart with a bivalve. In these cases I have seen excessive bleeding, all occurring on the third day after the operation. This, however, did not seem to come from the wound, but was regarded as the result of a passive congestion of the endometrium.

If the operation is successful, the relief afforded is speedy and sure, and, what is more, generally permanent. The operation is simple, and free from danger. It often renders sterile women capable of childbearing. Dr. E. Wilson has confined ten women in whom he had previously performed the operation. In two there was a slight recurrence of the tear. In many cases, in which coitus was impossible on account of the pain and hemorrhage it produced, the difficulty has been entirely overcome. In one case only did the operator fail to get a satisfactory result. The cervix was badly torn. It was repaired. The woman was afterwards found to have salpingitis. Though her health improved after the restoration of the cervix, she did not recover. In a future communication to the Society I hope to show her Fallopian tubes. Allowed to runs its course, the sequelæ of lacerations are endless. Disturbance of the catanemia, dyspareunia, ovaritis, leucorrhœa, subinvolution, grave mental disturbances, and, above all, epithelioma. In conclusion, gentlemen, permit me to quote the words of a distinguished gynecologist: "These are no longer the chimeras and hobbies of the specialist, but grave and serious dangers." It is to be hoped that in time to come, a more scientific and certain knowledge of the dangers and difficulties of parturition, and the means for their avoidance, may enable physicians to avert the accident.

DR. BAER inquired if the operations were done for the relief of sterility.

DR. WILSON replied that they were for the relief of general symptoms. Ten of Dr. Ellwood Wilson's cases have since become pregnant.

DR. GOODELL remarked that he had no trouble in removing the stitches. His method was to leave the two lateral upper stitches with long-shotted ends: by means of these each side of the cervix can be drawn into the field of his bivalve speculum, and the stitches removed with ease.

DR. MONTGOMERY bore testimony to the same, and to the value of the bivalve speculum over that of Sims for that purpose. He had used the double thread through the cervix, and had described its uses before this Society at the meeting of October 6, 1881, and published in full in the *Obstetric Gazette*, January, 1882. As regards the quantity of tissue to be removed in closing a laceration, the operator must be governed by the character of the injury, and it might not be possible to have a satisfactory result where there was an anteversion of the uterus, the flexion occurring in the lower part of the cervix, the anterior lip being elongated and hypertrophied, the posterior normal or even atrophied, for in such cases it was impossible to prevent the preponderance of tissue in the enlarged lip. He could readily understand that such a uterus becoming pregnant, in the subsequent labor the long anterior lip would form a segment over the child's head, which would almost certainly result in relaceration. In the case which Dr. Wilson cites of extensive laceration during labor, the proper treatment would have been to perform a primary operation by the immediate introduction of sutures rather than permit her to be subjected to the necessity of a secondary operation. It would be necessary to introduce the sutures much deeper, and then to make allowance for the subsequent involution.

It is not infrequent that multiple lacerations resemble epitheliomatous disease, and are accompanied by offensive discharge. He had given temporary relief in such a case by the use of chromic acid and tannin locally. The needle used in passing sutures should not be much larger than the wire that is to follow it.

DR. WILSON questioned the propriety of primary operations on the cervix, and thought the weight of authority against it.

DR. MONTGOMERY remarked that the first case by Montrose Pallen was a primary operation, and was successful.

DR. CHARLES H. THOMAS remarked that at the meeting of this Society, held October 6, 1881, he had reported a case of laceration of the cervix uteri simulating cauliflower excrescence, which he had treated eighteen years before. The patient was exsanguine from hemorrhage, which had put her life in great danger. He used glycerole of tannin tampons, and at the end of two weeks she had improved immensely, and the condition finally proved to be a deep laceration with ectropion. Before the treatment she had been seen by six experienced gynecologists, who declared the condition cancerous, and one of them refused to be convinced that it was not so, saying, within the last four years, that "it had been cancer, it was cancer, and she would die of cancer." When the case was reported, another of the physicians who had originally seen the case, inquired of Dr. Thomas if he "proposed to cure uterine cancer by means of glycerole of tannin tampons." The menopause has since been established, the uterus, examined within the past month, was found atrophied, and the former patient has been for nearly twenty years a hard-working monthly nurse.

DR. GOODELL thought it pardonable to make the mistake. With all his experience he had seen two cases in which he could not for some time make a certain diagnosis. There was no doubt about the existence of a laceration, but whether the angry-looking growths were merely cock's-comb granulations or epithelioma was not so easy to decide. They eventually proved to be benign.

NEWS ITEMS.

STATEMENT RELATING TO THE INTERNATIONAL COLLECTIVE INVESTIGATION OF DISEASE PROPOSED AT THE INTERNATIONAL MEDICAL CONGRESS AT COPENHAGEN.—The General Meeting of the International Medical Congress, held at Copenhagen on August 14th, passed the following resolution:

That an International Committee be formed for the Collective Investigation of Disease, in connection with the work of the International Medical Congress.

Professor Jacobi, of New York, and **Dr. N. S. Davis**, of Chicago, were appointed as representatives of the United States.

The main objects which the Committee seeks to attain through the Collective Investigation of Disease are to widen the basis of Medical Science, to gather and store the mass of information that at present goes to waste, to verify or correct existing opinions, to discover laws where now only irregularity is perceived, to amplify our knowledge of rare affections, and to ascertain such points as the geographical distribution of diseases and their modifications in different districts. It will be its endeavor to place clearly before the whole profession the limits and defects of existing knowledge, as well as to stimulate observation, and to give it a definite direction. It will be a not unimportant incidental result of its work should it tend, as is hoped, to the better training of the members of the profession in habits of scientific and practical observation, and in systematic methods of recording the facts which they observe.

The age in which we live has seen enormous advances in the sciences on which the fabric of Medicine rests, such as Chemistry and other branches of Physics, Physiology, and Pathology. Each of these has taken giants strides. It must be admitted, however, that purely medical knowledge has scarcely made proportionate progress. It cannot be expected that it should do so, as it deals with the aberrations of the most complex of organisms, is of all sciences the most difficult, and demands the greatest patience and the largest accumulation of data.

Hitherto the advancement of Medical Science has been brought about mainly by individual effort. The value of such work in the past we in no way underrate, nor do we desire to lessen the amount of it in the future; but in Medical Science there is much that defies interpretation from individual experience, and many problems so far-reaching in an ever-widening field, with elements so manifold, that no single man, however gifted and long-lived, can hope to bring the whole within his range. The need, therefore, in Medicine, of that combination and concentration of individual work which is adopted in many other branches of science and in commerce, and to which increasing facilities of intercommunication have given so much impulse and so much strength, cannot be questioned. Indeed, it may be said that, resting on individual research alone, medical knowledge can be advanced but slowly and with difficulty. Future progress to any great extent must be the work, not of units acting disconnectedly, but of the collected force of many acting as one. For many to act as one, organization is needed; that organization it is the purpose of our Committee to supply.

Disease is many-sided; and we wish to include in our organization those who see it from every side. All, therefore, whether hospital physicians, family and school attendants, specialists, medical officers of the Army and Navy, and of workhouses and asylums, will be asked to contribute their quota of observation to the common fund.

In England and in Germany organizations for this purpose already exist, through which good work has been accomplished; and a volume entitled the *Collective Investigation Record*, containing tabulated returns, with reports upon them and other matters, is published annually by the British Medical Association. France and Austria are alive to the importance of the new method. In Scandinavia and in the United States the foundations of associations have been laid. Denmark, Russia, and Switzerland are setting their hands to the task. To unite these several associations by an international organization for the study of various problems, and to induce the formation of similar combinations elsewhere, is felt to be a work peculiarly befitting an International Congress. The Committee was enjoined by the Congress at Copenhagen to endeavor to carry out this work, and, in compliance with that injunction, it invites the coöperation of all who have at heart the promotion of medical science and practice.

The following is the proposed method. A subject having been selected, a person or persons of acknowledged authority will be asked to write a memorandum, in the form of a short essay, upon it. The memorandum will succinctly give the present state of our knowledge. It will also point out the directions in which further research may best be made; and, with this view, will suggest a few simple and definite questions upon the subject selected. The questions will relate to matters of fact, to be elicited by observation of cases, rather than to matters of opinion.

The contemplated organization will, it is hoped, in time enable the Committee to ask and collect answers to these questions from the profession at large wherever scientific medicine is studied or practised. It will be a further duty to examine, arrange, tabulate, and deduce results from the mass of observations thus collected, due credit being given to each contributor for the information he has furnished; and reports on the results of the several investigations will be laid before the International Congress at its next meeting at Washington.

The Cholera in Italy.—The United States Consul at Genoa gives a history of the appearance of cholera in that city and province, and the cause assigned for its rapid spread. It will be read with interest as showing the effect of a contaminated water supply:

The first cases were reported on the 22d of September, but up to the evening of that day the authorities were unwilling to believe that the victims were possessed of the epidemic. From the last-named date to the afternoon of the 24th, 16 cases and 7 deaths were recorded. On the 25th, to 3.30 P.M., as stated in my telegram, 33 new cases were reported and 18 deaths. The most singular fact in the advance of the malady in Genoa is that it seeks and finds victims in every part of the city. Reports from other places where the cholera had raged located the disease in the narrow, sunless streets, and among the poor people; in Genoa it is everywhere; the lightest, healthiest localities, and the widest and most airy thoroughfares have yielded up victims to the epidemic. The very street in which the Consulate is located, together with the French, Austrian, and that of Turkey, has furnished victims, one of whom was taken from the second building to the one in which I am writing this dispatch. Even on the high and airy Piazza Cariguane, where English and American visitors temporarily reside when in Genoa, two letter-carriers succumbed to the malady when in the act of delivering the mail.

The knowledge that cholera is striking everywhere in the city and among all classes, has created much sober thought among the people. Thousands of the naturally timid have left the city, while those of bolder character look at the situation as decidedly uninviting.

There is cause for serious thought, for a person cannot walk far on the street without witnessing the spectacle of plague-stricken humanity being carried past, some to the hospital, others to their final resting-place, without religious rites or mourners to follow them to their narrow beds. It is my sad privilege to witness daily such scenes. The outbreak of the epidemic in Genoa, and especially in localities which were considered all but proof against the malady, called for serious investigations; for, as I stated to the Department in previous dispatches, the authorities, through their ceaseless watching, untiring energy, and the great pains taken day and night to keep the city clean, succeeded till now in keeping the cholera out of what has been looked upon as the most exposed port to the disease of any in all Italy, from the fact that all vessels from French ports unload and load merchandise here before proceeding further south.

Experts were therefore appointed to investigate the matter thoroughly, and their verdict is that the spread of the epidemic in all parts of the city was caused by *impure water*. As if to add more weight to this verdict, although not officially so reported, it is understood, throughout the city, that out of 68 cases of cholera during the first three days of the ravages here there were 61 deaths, and of these 61 victims it was discovered that all of them had used the water brought from a certain aqueduct. Further, it was proven, before an analysis of the water was made, that fish had died in fountains fed from the water-course alluded to.

A brief description of Genoa's aqueducts and their feeders, and the causes assigned for the impurity of a portion of the water, may not be out of place here.

This city is supplied with water from three aqueducts, two of which belong to joint stock companies, the other to the city. The "De Ferrari Galleries" (joint stock concern) and the city aqueducts are about fifteen miles long and both are fed from the rivers.

The third water-course, the Nicolay aqueducts (joint stock company) is about thirteen miles long and is supplied by the river Scrivia. The water from the Nicolay is supposed to be the primary cause of the introduction of cholera into Genoa, and for the following reasons: Near the head of this aqueduct is a village called Busalla, and close by the village between 1500 and 2000 laborers are employed. The men are under the village excavating a new railroad track. They are described as in a most filthy condition. Cholera broke out in Busalla on the 14th of September, and up to the date of the investigation by experts (heretofore mentioned), there were recorded twenty-five cases of the epidemic and fourteen deaths in that village. Inquiry disclosed that nearly all the workingmen, both the sick and the well, had their clothes washed in the Scrivia, the river which supplies the Nicolay aqueducts.

As soon as the Mayor of Genoa, a brave, fearless, and energetic executive officer, heard of these things, he immediately ordered the Nicolay Company to shut off the water of the Scrivia and turn the waters from the Garzento into their water-course. This was not a long nor an expensive job, as the two other aqueducts are very close to the Nicolay; but the company refused, whereupon the Mayor caused the work to be done and had the cost thereof charged to the Nicolay Company.

Whether the stopping of the Scrivia water supply has checked the disease in Genoa or not, is something of a conjecture, but one thing is certain, the people praise their energetic mayor for his actions in the matter. The official reports of cases of cholera in Genoa, I am inclined to think, are right, but I am morally certain that fully seventy-five per cent. of the number find relief in death. Another item should be mentioned here: only cases in the city proper are reported as in Genoa, and yet there is only the difference of a street or a wall between Genoa and several suburban towns, and all the latter have more or less cases.

The total number of cases and deaths from cholera in the province of Genoa since the disease first appeared, up to the 24th of September, is given as follows: Cases, 1168; deaths, 617.

The death reports are irregular and oftentimes contradictory; as stated above, 75 per cent. of those who have been struck with the malady have undoubtedly died. Orders have been issued prohibiting this year's wine from being sold in the city.

Since its outbreak in the city, business has been almost entirely suspended. Many shops are closed and the proprietors thereof are rusticating in more healthy quarters.

THE CHOLERA IN FRANCE (*concluded from page 446*).—The United States Consul at Marseilles gives the following account of the spread of the epidemic in Southern France.

Since the date of my last report, the cholera has spread widely throughout the whole district within a radius of one hundred to one hundred and fifty miles from Marseilles. At Arles, Aix, and Cette, as in this city, the disease seems to have spent its first malignant energy, and the death-rate in those places is either stationary or slowly declining. At other places, notably in various small villages in the Departments of Ardeche, Neiault, and Basses-Alpes it has broken out, within a week past, with fatal intensity. Among the most striking cases of this class, is that of the village of Omergues, twenty-five miles from Listeron, in the Department of Basses-Alpes. The place is a small closely built mountain hamlet, of seven hundred people, having no physician or apothecary, and few ideas of cleanliness or sanitary prudence. About ten days ago, a servant from Marseilles returned to her family at Omergues, bringing the fatal germ of contagion. She and two other members of her family died, and the corpses were left for a day or more unburied, panic seized the little community, and before the facts became known, and help could be sent from Listeron, twenty-five of the poor creatures had died. The Prefect of the Department hastened to the scene, physicians and medicines were brought, and the epidemic at that point was checked, although it still prevails there in a very fatal form.

In many cases the contagion is preserved and spread by that most wilful and criminal stupidity which prompts these thrifty peasants to preserve and sell the bedding and clothes of their dead relatives. These, with the other large contingent whom no danger or warning can prevent from excessive indulgence in melons, stale fruits, and cold drinks, have been in this, as in past epidemics, mainly instrumental in keeping alive and transmitting the pestilence.

There seems to be, however, some definite suggestions in the capricious, irregular spread of the cholera throughout Southern France this summer, passing by certain villages to attack others in the same neighborhood, and increasing or diminishing under certain conditions of moisture, winds, and temperature. A careful study of all attainable facts of this kind would seem to show that the ignition and spread of cholera in a community is favored by four fundamental conditions, viz.:

1. Porosity of soil, which would allow choleric dejections to penetrate to sufficient depth to reach springs, wells, or other sources or channels of water used for domestic purposes. Open gravelly soils are therefore the worst in this respect.

2. The facilities offered by drains, sewers, and water-courses for the circulation of infected water under and among the dwellings of a village or city.

3. The accumulation of fecal or other decaying organic matter infected by choleraic dejections.

4. Close, crowded, ill-ventilated dwellings, combined with unwholesome and irregular alimentation and neglect of cleanliness.

All this has, of course, long been known, but it is worthy of record, that during the spread of the present epidemics the town and villages of Southern France have been stricken in very exact proportion to the degree in which they involve one or more of the above conditions. What is called the "caprice" or "waywardness" of Asiatic cholera is simply its persistence in seeking conditions favorable to its propagation and diffusion.

Special Medical Inspection of Vessels Bound to the United States. In accordance with the most recent instructions of the Department, abstracts of bills of health issued at this consulate to vessels clearing for American ports are forwarded, and comprise all the clearances which have been made from Marseilles to the United States since the enforcement of the regulations concerning special medical inspections. Every effort is made to render the prescribed inspections of vessels, passengers, baggage, and merchandise as thorough as possible, but it is essential that the real facts of the present situation should be neither underestimated nor misunderstood.

The harbor of Marseilles covers nearly the entire water front of the city and has but three narrow outlets to the open sea. Into these enclosures of tideless water the sewers pour the filth and dejections of the entire city, nearly every part of which is at present more or less contaminated by cholera. Poisoned thus by a constant influx of sewage, stagnating and festering under the sultry heat of midsummer, the waters of the pool of Marseilles have become putrid and pestilential. Any vessel which is moored for even a day in the harbor, or any freight that may be landed or taken on board under such conditions, may become infected to a degree which may involve future danger but which *no present inspection can detect.* The three English vessels which developed cholera on board during the past month left this port after careful inspection, and were, apparently, free from contagion. This has happened to vessels which while in port here permitted none of their crews to land nor took on board either water or provisions. The plain teaching of these facts would seem to be that every vessel from the port of Marseilles is liable if not likely to be infected despite every precaution of her officers, and although the most careful inspection may fail to discover any flaw in her sanitary record or present condition. While these conditions exist, at least until the end of October, all vessels and textile merchandise coming from Marseilles should, in the opinion of this consulate, be subject to careful quarantine regulations at ports of arrival.

The port of Cette, though in better condition than that of Marseilles, is likewise infected with cholera, and all arrivals from there should be subject to similar regulations.

U. S. Consul Mason telegraphs from Marseilles under date of October 16th, that "Port Cette has been declared clean. The epidemic at Marseilles is practically ended; only three deaths in past five days, all due to imprudences."

REPORT OF THE SURGEON-GENERAL OF THE ARMY.—The Surgeon-General of the Army, in his annual report to the Secretary of War, says that an increased amount of appropriation for the purchase of artificial limbs and appliances for the next fiscal year is necessary. He speaks of the apparent hardships in carrying out the laws for furnishing trusses, and recommends that the existing law on this subject be so amended as to correspond with that relating to artificial limbs. Medical and hospital supplies were issued during the year to the amount of $166,567, and the cost of the supplies required during the current fiscal year will probably exceed that amount by at least $25,000. He renews the suggestion made in his last annual report, that Congress so legislate as to permit the sale of medical supplies to civilian employés.

The total number of deaths among white troops was 250, or 12 per 1000 of mean strength, an increase of 2 per 1000 over the rate for the previous year. The number of white soldiers discharged for disability was 838. The total number of deaths among the colored troops was 22, or 10 per 1000 of mean strength, which is 1 per 1000 lower than the death-rate of the previous year. He notes the fact that this is not only the lowest death-rate yet reached among the colored troops since their organization, but that it is the first time the rate has fallen lower than for white troops; the usual average difference being 3.2 per 1000 of mean strength in favor of the latter class. The number of recruits examined during the year was 6263 white, 453 colored, and 239 Indian scouts. The number rejected was 2041 white and 146 colored.

During the year there were added 144 new specimens to the collection of the Army Medical Museum, making a total of 9114 specimens now in the museum. During the year 13,598 visitors registered at the museum. The additions to the library include 4000 volumes, and 5500 pamphlets. The Medical and Surgical History of the War will probably be completed and ready for issue in about a year. This work is in the hands of Surgeon Charles Smart. The Surgeon-General expresses a hope that action may be taken during the coming session of Congress to provide a fireproof building for the Army Medical Museum and Library of the Surgeon-General's Office, and that immediate steps be taken to secure a safe depository for these valuable collections, now in constant peril from the dangers which surround the present unsuitable building.

The American Academy of Medicine will hold its ninth annual meeting in Hopkins Hall, John Hopkins University, Baltimore, on Tuesday and Wednesday, October 28 and 29, 1884.

Washington Obstetrical and Gynecological Society.—At the annual meeting of the Washington Obstetrical and Gynecological Society, held October 17, 1884, the following officers were elected for the ensuing year:

President.—Dr. Samuel C. Busey.
Vice-Presidents.—Drs. W. W. Johnson and J. Taber Johnson.
Recording Secretary.—Dr. C. H. H. Kleinschmidt.
Corresponding Secretary.—Dr. Samuel S. Adams.
Treasurer.—Dr. George Byrd Harrison.

Rectal Etherization.—We note, for the benefit of those interested, that Pirogoff's experience with etherization by the rectum is to be found in his *Voyage Médical au Caucase*, St. Petersburg, 1848.

The French Cholera Commission in Egypt.—The report of the anatomical and experimental researches of MM. Strauss, Roux, Nocard, and Thuillier, on the cholera epidemic in Egypt in 1883, is published in the *Archives de Physiologie normale et Pathologique*, 1884, No. 4.

The English Cholera Commission, Drs. Klein and Gibbes, and Mr. Lingard, have arrived in Bombay and are reported as being busily at work.

Koch Declines Cohnheim's Chair.—The *Deutsche medicinische Wochenschrift*, of September 25, states that Dr. Koch will not accept the Chair occupied by the late Professor Cohnheim in the University of Leipzig. Though the invitation was most flattering, Dr. Koch says that he owes much to Prussia, and to leave her service now would be ungrateful in him.

Obituary Record.—Died, at his home in Augusta, Ga., Louis Alexander Dugas, M.D., in the seventy-eighth year of his age. Dr. Dugas was born in Washington, Ga., in 1806, of French West Indian parentage. After receiving his early education from a private tutor he began the study of medicine in the office of Dr. John Dent, of Augusta. Then he pursued a course of study in the medical department of the University of Maryland, from which he graduated in 1827. He passed four years in study in Europe, and then settled down to the practice of his profession in Augusta. In 1832 he was one of the founders of the Medical College of Georgia, and filled the Chair of Surgery. He retained this position until the close of his life. He has several times served as President of the Medical Association of Georgia. He became editor of the *Southern Medical and Surgical Journal* in 1851, and retained the position for seven years. During the war he was a volunteer surgeon in many of the military hospitals.

—— Professor Hermann von Zeissl, who added so much to Dermatology and Syphilography, has recently died in Vienna. He was born in 1817, and entered the University of Vienna in 1839, where he became one of Skoda's most enthusiastic pupils. On graduating, he entered the Vienna General Hospital, and acted as Assistant in different clinics. He then turned his attention to Dermatology and Syphilography. In 1860 he was appointed Professor Extraordinary of Dermatology. In 1869 he received the title of Regierungsrath. For several years his health has been bad, and he suffered an accident during the past summer which hastened his death.

NOTES AND QUERIES.

DAVIS'S METHOD OF TREATING PLACENTA PRÆVIA.

To the Editor of The Medical News.

Sir: In Prof. Parvin's address before the Lehigh Valley Medical Society, August 19, 1884, in speaking of the treatment of placenta prævia, he speaks of the method of Dr. R. Davis, of this city, as a modified Cohen method. I wish to say that Dr. Davis claims that his method is original, so far as he knows; that it was published in the *Transactions* of the State Medical Society in 1876, and has been recognized as his by the profession ever since. We do not want the credit of the work that is done by our physicians to be given to the Germans. Yours,

Maris Gibson, M.D.

Wilkes Barre, Pa., Oct. 19, 1884.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 14 TO OCTOBER 20, 1884.

Norris, Basil, *Lieutenant-Colonel and Surgeon.*—Relieved from duty as Attending Surgeon, Washington, D. C., and ordered for duty as Medical Director Division of the Pacific and Department of California, relieving Surgeon E. I. Baily. Colonel Baily, on being relieved, will assume the duties of Attending Surgeon at San Francisco, Cal.

Spencer, Wm. C., *Major and Surgeon.*—From Department of Dakota to Department of the East.

Goddard, Chas. E., *Major and Surgeon.*—To be relieved from duty at Jefferson Barracks, Missouri, and to report for duty in Department of Dakota.

McClellan, Ely, *Major and Surgeon.*—From Department of the East to duty at Cavalry Depot, Jefferson Barracks, Missouri.—*S. O. 242, A. G. O.*, October 15, 1884.

Wolverton, W. D., *Major and Surgeon.*—Granted one month's leave of absence, to take effect when his services can be spared by his post commander.—*Par. 4, S. O. 211, Department of the East*, October 16, 1884.

Winne, C. K., *Captain and Assistant Surgeon.*—In addition to his duties as Post Surgeon at Benicia Barracks, will also attend the sick at Benicia Arsenal, California.—*S. O. 122, Headquarters Department of California*, October 13, 1884.

Havard, Valery, *Captain and Assistant Surgeon.*—Assigned to temporary duty at Fort Schuyler, New York Harbor, N. Y.—*Par. 2, S. O. 211, Department of the East*, October 16, 1884.

Porter, J. Y., *Captain and Assistant Surgeon.*—Granted leave of absence for one month, on surgeon's certificate of disability, with permission to leave the limits of the Department.—*Par. 3, S. O. 138, Headquarters Department of Texas*, October 9, 1884. Confirms telegraphic order of same date.

Phillips, John L., *First Lieutenant and Assistant Surgeon.*—Transferred from Department of the East to Department of Dakota.—*S. O. 245, A. G. O.*, October 18, 1884.

The Medical News *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the News *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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ORIGINAL LECTURES.

THE GUIDING PRINCIPLES OF OPERATIVE SURGERY.

An extract from a Lecture Introductory to the Course of Surgery, delivered at Guy's Hospital, London, October, 1884.

BY THOMAS BRYANT,

SURGEON TO AND LECTURER ON SURGERY AT GUY'S HOSPITAL.

GENTLEMEN: In the treatment of disease or injury the surgeon should employ his art to help, guide, and utilize natural physiological processes, and to remove all such obstacles as may interfere with their steady evolution. To this end medical treatment, position, and mechanical appliances may be required, and when these fail or are insufficient operative surgery comes into requisition.

Pathological or morbid processes are mere modifications of the physiological, and all passing or so-called functional affections, with most if not all organic diseases, are probably disorders of function. Pathological or morbid processes consequently can only be understood by following out the functional aberrations of the affected organ or tissue, and by studying the physiological laws of the diseased part working under altered circumstances.

To understand and know how to treat morbid or diseased processes, it is essential, therefore, to be acquainted with the normal or physiological. The reparative processes of nature are essentially physiological, and rest upon the same lines as those of development and growth. Before the surgeon, therefore, can estimate how far an injured part is capable of being repaired, he must know how repair takes place, and when he can efficiently treat even the simplest injury he must appreciate the circumstances under which repair is best effected and recognize the obstacles that may interfere with its action. The treatment of all accidental surgery as well as of wounds consequently is based on a knowledge of natural repair, a correct appreciation of how it is carried out, under the most advantageous circumstances, how it may be interfered with, retarded, or arrested, and under what circumstances it is impossible.

In the treatment of injuries where repair is impossible or has failed, and in the treatment of disease where nature's physiological processes however skilfully assisted have proved themselves incompetent to effect a cure, "operative surgery," may be called into requisition. The surgeon's last resource under both circumstances being made available when all minor means to guide or aid nature are inapplicable or have been proved inefficient.

Operative surgery, to be a justifiable proceeding, must be based upon these principles, and the operating surgeon, if he is to rank above the mere experimenter, or claim the position of a scientific man, must be guided by them. For what John Hunter said ninety years ago, is as true now as it was then, that "surgery consists in curing a disease rather than in the removal of it by mechanical means, but so differently do most think upon this subject that a surgeon who performs most operations, and gives most pain is commonly thought the best. Operations were too frequently had recourse to formerly, and perhaps this remark still holds good. As operations, however, are sometimes not to be avoided, it is highly necessary he should know how to perform them" (1787).

I have been led to think that operations in surgery are like war in politics, either the result of a failure in the treatment of a trouble, or a rough means of getting over a difficulty which otherwise seems incapable of cure. In either case the measure may be wrong and unprincipled, when entered upon without sufficient reason or right, and truly conservative when based upon a principle, as when a part is sacrificed to save the centre, or a limb lost to maintain the trunk. If the same ends, however, are to be secured by simpler means, and without shedding blood, they should be employed.

Operations are demanded for many purposes, and may be divided into those of necessity and expediency. Operations of necessity include those undertaken to save life, directly or indirectly; and operations of expediency for other purposes than to save life (a most important distinction).

Of the operations of necessity undertaken to save life directly, may be included cases of wounded arteries and hemorrhage, not amenable to other treatment, cases of strangulated hernia, and of internal strangulation.

Tracheotomy for removal of foreign bodies in asphyxia from any cause.

Tapping the bladder for retention of urine, when other measures are inapplicable.

Colotomy for mechanical intestinal obstruction.

Removal of an irremediably crushed or torn extremity. "And of those undertaken to save life indirectly."

All operations that take away what cannot be removed by natural processes, or what if left must inevitably destroy life, as in cases of aneurism.

Tumors not otherwise curable, pressing on vital parts or involving bones.

Bad compound fractures which are beyond the powers of nature to heal.

Irretrievably disorganized joints in which natural processes have failed to bring about a cure, or are evidently unequal to the task.

Removal of dead bone which cannot be discharged spontaneously, or if left may do harm by exciting suppuration in a joint or cavity.

The extraction of a calculus from the bladder or foreign body from a viscus.

Tapping for fluid in the chest or ovarian disease threatening life, all these that I have enumerated are operations of necessity.

Operations of expediency are a large class and include all undertaken for other purposes than saving life; such as operations undertaken for the removal of what disfigures, or may be a source of worry, or interferes with life's pleasures, usefulness, or duties.

Removal of simple tumors that are in the way or unsightly, but that do not or never will threaten life, directly or indirectly. Plastic operations for the improvement or restoration of deficient or destroyed parts. The removal of supernumerary parts, deformities, or useless extremities.

Operations undertaken with the view of expediting recovery, or rendering life's pleasures or duties more satisfactory.

Operations of necessity, undertaken for the direct saving of life, need no comment. Such as amputation for secondary hemorrhage from wounded arteries. The selection of cases finds no place in the surgeon's mind, they must be performed by the conscientious surgeon, under the most adverse circumstances. The question for decision has reference alone to the best and most successful form of operation, though the success of the case may turn upon the manner in which the operation is performed.

The same remarks are likewise applicable to the *second class* of cases in which an operation is undertaken for the removal of what natural processes are unequal to, and of that which if left must inevitably destroy life, such as operations for tumors, operations for aneurism, ovarian disease, the question for decision in these cases being the *best time* for their performance and the conditions under which a good result may probably be expected: a good result, first with respect to life, and secondly, as to life's usefulness.

Operations of expediency, such as plastic operations, removal of deformed or useless limbs, demand, on the part of the surgeon, the greatest circumspection and consideration. They should never be undertaken lightly, without a full understanding by the patient of the risks to life and limb that may be incurred, and a full sense of responsibility c part of the surgeon, for I should have you know that there is no operation, however trivial it may appear, which is not attended by some risk; indeed, I would have you believe that there are no simple operation in surgery; in all of these operations, therefore, let the patient know what are the probabilities of success or failure; what liabilities he or she incurs, and with such knowledge let the patient share the responsibility with the surgeon, the latter using his authority and influence to urge the operation where, in his judgment, he believes the proposal to be sound and justifiable, and, on the other hand, steadily opposing it, even to the refusal of its performance, where he believes the risks are greater than the probable advantages.

On no account let the wish of the patient to be relieved of a real or imaginary trouble tempt you to undertake an operation, however trivial, against your judgment, for, under all circumstances, the position of the surgeon is to lead and direct, and not to be led or influenced, and his duty to be the guiding power rather than the feeble instrument to carry out the wishes of the weak. Let the patient's wishes and opinion mould your act, when, in your judgment, the operation is right; but never let them induce you to undertake it against your judgment, for, bear in mind, the responsibility of any operation must always rest upon the shoulders of the operator.

The surgeon having decided that an operation is directly called for to save life, or *indirectly* to do so, by taking away what if left, will destroy it, or after full consultation with his patient, has come to the conclusion that, as a measure of expediency, an operation is justifiable to relieve a trouble which, though not touching, may have rendered life's usefulness or journey painful or wearisome, has to decide upon its nature, and to select one of the many alternatives which may present themselves, and in doing this he must be guided by a principle, and to ask himself, as clearly as he can, the object he has in view, and, having found an answer, to carry it out.

For example, if the operation is the removal of a tumor, he is to take it away with no greater injury or destruction of healthy parts than is absolutely essential. If the operation is for joint mischief, the question of excision well comes into consideration in preference to amputation, the expediency of free incision rather than excision, and the propriety of attempting to obtain a natural cure before any operation. *If it be one of amputation,* the diseased or injured extremity is to be removed as close above the seat of mischief or disease as is compatible with safety, since the principle of the "*least sacrifice of parts*" ought to be invariably followed, and no more of the body be taken away than is called for by the necessities of the case; no preference, in the surgery of the foot, for a Hey's amputation, a Chopart's, a Pirogoff's, or a Syme's, is to have any weight with you. If, by a Hey's amputation, you can take away the disease, for the removal of which your interference is alone justifiable, no further sacrifice of parts should be entertained. If the disease be more extensive, and can be removed only by a Chopart's amputation, a Chopart's amputation is the one you ought to adopt. When nothing less than a Pirogoff's amputation will take away what requires removal, a Pirogoff's may be performed, and a Syme's amputation is to be entertained only when the disease is too extensive to permit of the Pirogoff's being carried out. And when none of these operations will effect what you want, viz., the removal of the disease, an amputation above the ankle may be had recourse to, for by the testimony of most, and I wish I could say of all, surgeons, the major operation of amputation of the leg is justifiable alone when the minor operations upon the foot are inapplicable or have failed.

From the surgery of the foot learn the surgery of the body, or rather, through the surgery of the foot learn the great principle that ought to influence you throughout all operative surgery. Learn to know that as a duty you are to remove from the body only what nature unassisted cannot cast off, and what, if left, will interfere with life or life's usefulness, and bear always in mind that you are to do this with the least risk to life, with the least sacrifice of parts, and with the least local disturbance.

When the *patient is aged* these principles of practice are still more binding. In the *old*, think twice, and even thrice about performing an operation that is not a necessity to save life, nor called for urgently by the danger to life the presence of the disease produces, or by the pain with which it is associated. Hesitate much if the patient be a drunkard or a coarse eater, if he have soft and fat textures, if there are indications of visceral mischief, particularly bronchial, hepatic, or last, though not least, renal disease. In such cases give up the thought of operation, unless under most pressing circumstances, for you had better leave the case to nature, and employ your art to relieve symptoms by the many ways which are open to you, than by any act of yours to risk life. If you are not sure of doing good, be *very sure that you do no harm.* The patient may die, but take care that he does not do so from any act of yours.

Need I add, never be tempted to perform an operation from the pleasure it may afford you, or the benefit its performance may do you in the eyes of your neighbors, or the whip it may perhaps give you over a brother, and possibly a rival practitioner.

The surgeon should never deviate from these rules in order to gratify a fancy or a desire to perform a named or favorite operation. He is never to look at his patient or the disease with a purely operative eye, which may suggest that the case before him is a good one for this or that operation, but to view it with a broad and clinical aspect, and solely with the necessities of the case before him. He is ever to look upon the case from his patient's point of view, and from no other, to do from necessity what the necessities of the case require, and to do what has to be done in the simplest and safest way. Ever remember that patients are not subjects, but living human beings, with all their feelings, anxieties, responsibilities, and hopes, and that the great Christian principle of "doing unto others what we would they should do unto us," is as applicable in the practice of surgery as it is in the performance of the general duties of life. At any rate, gentlemen, if you let these principles of practice be your guides for the future, I can, with confidence, assure you that you will be travelling in the right road, and that in life you will win, as you will deserve, *success.*

ORIGINAL ARTICLES.

AN INQUIRY INTO THE ORIGIN OF THE USE OF THE LIGATURE IN THE TREATMENT OF ANEURISM.[1]

BY LEWIS A. STIMSON, M.D.,
PROFESSOR OF CLINICAL SURGERY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.

AMONG the many great advantages modern methods of treating wounds have conferred upon the art of surgery, one of the greatest is the security they have given to operations upon the arteries. They have made it possible to tie the principal arteries of the limbs in continuity with almost absolute security against secondary hemorrhage, and with greatly diminished risk of causing gangrene. They have almost entirely done away with, or have relegated to the class of exceptions, that host of alternative methods by which for a century surgeons have sought to replace the ligature in the treatment of external aneurisms. It has become so safe to tie the femoral artery, for example, that the surgeon who, in an ordinary case of popliteal aneurism, should resort to that operation in preference to any other method, would not be deemed indifferent to his patient's best interests, or thought to have exposed him to any serious risk which might have been safely avoided. The efficiency, promptness, and painlessness of the method would be accepted as a complete equivalent for the advantages peculiar to such rival methods as digital pressure or the use of the elastic bandage.

Such being the case, the question of priority in the introduction of the ligature gains in interest, and it is to that question that I ask your attention—a question that has been made to turn, not upon the simple fact of priority in the use of the ligature (concerning which there is no obscurity), but rather upon the motives, principles, and knowledge that guided those who first used it and who established the method. The facts are as follows:

On the 30th of January, 1710, Dominique Anel, a French surgeon practising in Rome, operated upon a priest for a very large aneurism of the brachial artery at the bend of the elbow, caused by an unskilful venesection; he exposed the artery above the tumor, and tied it as close to the latter as was possible; the patient made a good recovery.

The report of the case provoked much discussion, and a spirit hostile to Anel and to the new method showed itself in the country of his adoption, and it was charged against him, with a variety that testifies to the ingenuity of his detractors, that the case was not an aneurism, that he had not cured it, and that the cure was only by a lucky chance. Against the first two charges he brought the written testimony of other surgeons who had seen the case; and against the third he offered arguments which show his correct apprehension of the manner in which the operation effects a cure. He says: "I did not touch the sac at all, not doubting that the blood would leave it, since the way was open for it to pass down the limb, and that the sac, once emptied, would not refill; that the tissues of the membranes which formed it would not fail to shrink, and that thus the tumor would disappear; which did not fail to take place as I had expected."[1]

The case, together with his reply to various criticisms, was published by Anel in 1714, and the account was published in various journals and books in 1716, 1739, 1749, and 1750; and the operation appears to have been repeated three times upon the brachial artery and once upon the temporal; in one of them the artery was tied "on the inner side of the arm above the condyle;" in all the aneurism was traumatic.

The question at once arises: Why was not this method at once accepted by the profession and generalized? The answer is to be found, I think, in the attitude of the profession toward aneurisms in general, and in the ignorance of the existence of the collateral circulation. At the time Anel operated, surgeons attempted the cure only of traumatic aneurisms of the brachial and temporal arteries following venesection; against popliteal and femoral aneurisms they knew of no resource except amputation of the limb, and they had yet to learn even that the femoral artery could be tied without causing gangrene of the limb. One man (Morel, 1687) had applied the old method to a carotid aneurism, but his patient died on the table, and the case served as a warning, not as an encouragement. The old method of laying open the sac and tying all bleeding points could be practised without much difficulty and very successfully upon these minor aneurisms, and, although Anel's method recommended itself as easier of execution, it was, on the other hand, less certain to cure, because many of these aneurisms were arteriovenous aneurisms, and persisted or recurred after ligature of the artery. In two of the four cases above mentioned the disease returned, probably for this reason. In short, as regards some of the cases with which the surgeons of that time had most frequently to deal—arterio-venous aneurisms at the elbow—they possessed and successfully practised the operation which to-day is still used in similar cases; and as regards the others—traumatic aneurisms of the brachial and temporal arteries—the same method was efficient; and, although the offered substitute was simpler, this advantage was offset by its failure when the aneurism was arterio-venous; and they did not recognize the cause of the failure, for they had not learned to discriminate between this variety (first described by William Hunter in 1757) and the ordinary aneurism. They labored under no embarrassment, no great difficulty from which his operation could relieve them; it even exposed them to a variety of failure which they had not before known—the persistence or recurrence of the disease—and their knowledge of the resources of nature was not sufficient to enable them to extend their field of operation. What wonder that the new system was neglected and forgotten!

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[1] Read before the New York Surgical Society, October 14, 1884.

[1] "Car au lieu que l'on a accoutumé de faire la ligature en haut et en bas de l'anevrisme, je ne la fis, dit il, que du côté du haut: d'ailleurs, on ouvre le sac anevrismal, et je ne l'ai point touché du tout, ne doutant pas que le sang contenu dans ce sac ne se dissipât, ayant la liberté de se porter du côté de l'extrémité, et que ce sac étant une fois vuide, ne se rempléroit plus de nouveau, que les tuniques des membranes qui le formoient, ne manqueroient pas de s'affaisser, et qu'ainsi la tumeur devoit disparoître, ce qui n'a pas manqué d'arriver de même que je l'avois pensé."—Trévoux, January, 1716, p. 163; reprinted in Bibliothèque choisie de méd., 1749, vol. ii. p. 472, art. "Anévrisme."

During the following half-century surgeons learned that it was not necessary to amputate the leg of a patient because the femoral artery was wounded; ligature of the wounded artery had been successfully practised as early as 1646, and again in 1688, but it was not formally proposed as a substitute for amputation until nearly a century later. And, at about the same time, the "old operation" was first employed in a case of popliteal aneurism successfully (Keyslère, 1744), and, twenty years later, again successfully for femoral aneurism (Burchell, 1765).

The attention of surgeons was now fully directed to the treatment of spontaneous aneurisms of the lower extremity, to the search for a proper substitute for the amputation which hitherto had been the only resource. The first substitute was to extend to them the old operation, to repeat, in a somewhat modified form, what had been done by Antyllus more than fifteen hundred years before. Papers were written to prove that the obliteration of the artery would not cause the limb to fall into gangrene, and experience by actual operation rapidly accumulated.

The results of that experience were far from satisfactory. Pott ("Surgical Works," edited by Earle, vol. iii. p. 220) says of this operation: "I have tried it myself more than once or twice—I have seen it tried by others; but the event has always been fatal . . . Nor have I ever seen any other operation than that of amputation which has preserved the life of the patient;" and, as Mr. Holmes points out, the immediate success of the treatment of popliteal aneurism by proximal ligature (the "Hunterian" method), which itself has a mortality equal to that of amputation of the thigh, shows that the mortality after the old operation must have been something frightful. Something better needed to be found, and the times were growing ripe. Men were beginning again to think; the long blank period of tradition and dogmatism was coming to an end, and men stood at the threshold of the new era in which, under the influence of the intellectual upheaval of the French Revolution and the leadership of the French physicians, medicine was to become a science based on objective knowledge.

It had been learned that a popliteal or a femoral aneurism could be cured by opening the sac and tying the artery above and below, but that the operation carried with it an enormous risk of death by secondary hemorrhage and the accidents arising from a large irregular, suppurating wound. And in describing the operation as incision of the sac and ligature of the vessel, it must be remembered that this order was frequently reversed and the artery tied before the sac was opened; the object was a double one: to close the vessel and to empty the sac, and the order in which these objects were attained was immaterial.

Desault's first operation of ligature on the proximal side was done June 22, 1785, and Hunter's December 12th of the same year; but nine years before this, 1776, Desault[1] had had an opportunity to dissect a specimen of popliteal aneurism that had undergone spontaneous cure, and he had found the popliteal artery plugged by clotted blood, the femoral obliterated "as far up as the origin of the muscular branches," and likewise the upper third of the tibial arteries. An Italian surgeon, Assalini, who spent a year in Paris, and a few months subsequently in London, and had the good fortune to see both Desault's and Hunter's operations in 1785, published a book[2] in 1787 in which he reports Desault's teaching in 1785; referring to this dissection of 1776, he says, "he [Desault] thought the obliteration of the upper and lower portions of the artery was the result of the stagnation of the blood in them, produced by plugging of the aneurism, and for this reason, in the treatment of true aneurisms of large vessels, he did not apply two ligatures and did not open the sac; he placed a single ligature above the aneurism if that was possible, or below it if the condition of the parts made that necessary By this simple ligature he prevented the blood from entering the sac and circulating in the dilated vessels."

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[1] Broca, Des Anévrysmes, p. 449, from Journal de méd. (Vandermonde), vol. lxx. p. 473.

[2] Essai médical sur les vaisseux lymphatiques. Turin, 1787.

This report is the substance of a clinical lecture given by Desault at the time of his first operation. It shows his conception of the method of spontaneous cure and of the means by which that method could be imitated; he sought to obtain coagulation of the blood through arrest of the current by placing an obstacle on either the proximal or distal side, and he knew—he had known for nine years—that it was not necessary to turn out the clots, that the incision of the sac could be dispensed with if the artery could be otherwise closed. But how was that to be done? Naturally enough, he first tried compression, and, that failing, then the ligature in continuity. Broca tells us that the first case of which we have knowledge that came under Desault's care was an axillary aneurism, shortly before February, 1785, and he attempted to treat it by compression of the subclavian artery. Ligation of the subclavian was at that time an unknown operation. For some reason the patient left Desault and put himself under the care of another surgeon, who mistook the tumor for an abscess and opened it.

The idea of compression of the artery above the tumor was not new or unknown In 1761 Kretschmer treated a traumatic aneurism, resulting from a gunshot wound of the brachial artery, by direct pressure upon the tumor and by a tourniquet on the lower portion of the axillary artery; the latter was kept in place for three months, and the patient was completely cured. In 1765 Guattani treated a popliteal aneurism by a bandage applied directly to the leg and tumor, and to the thigh over a long, narrow pad, placed along the course of the femoral artery, with the expressed intention of preventing, wholly or in part, the flow of blood to the tumor. And again, in September, 1785, at a consultation, held in London, on a case of femoral aneurism as large as a middle-sized China-orange, at which eight surgeons (of whom Hunter was one) were present, all "were convinced of the impracticability of affording the patient any assistance by the operation usual for aneurisms," and advised that the artery should be compressed at the groin; the attempt was made, but soon abandoned, because of the pain.[1]

We are now able to understand the position of the profession at the time; we know the extent of their knowledge, and with what problems they were dealing; we can put ourselves in Desault's place, interpret his act, and comprehend his motives. Let us see if that act was, as the partisans of Hunter claim, merely a lucky blunder, conceived in ignorance and passed without appreciation.

Desault knew an aneurism could be cured without an incision to turn out the clot; he knew, as did most other surgeons, that the femoral artery could be tied without causing gangrene. He knew also that the principal cause of death after the common operation was secondary hemorrhage, and the avoidance of this danger was his principal preoccupation, as it was also that of Hunter. We have seen that, far from trying to get rid of the clot, he sought to cause clotting, and at the same time avoid hemorrhage, by compressing the artery on the proximal side. The attempt failed, presumably because of pain, and when the next case came under his care he substituted the ligature for compression.

The operation was done June 22, 1785, at l'Hôtel Dieu in Paris. The patient was thirty years old; the aneurism of the popliteal artery and as large as a turkey's egg. By an incision two inches long, Desault exposed the artery "immediately below the ring of the third adductor," separated it from the nerve, and tied it; he placed also a *ligature d'attente* above it, and tied this on the sixth day The tumor promptly diminished to half its size, and the œdema of the leg disappeared. On the eighteenth day the ligature came away, and on the following day a large quantity of pus and blood escaped through the wound, apparently in consequence of rupture of the sac, and the wound then healed.

Desault operated upon only one additional case; this was shortly after Hunter's first case, and Desault, following Hunter's example, which was known to him, placed the ligature on the femoral artery, but at a still higher point. The patient died.

There remains now to be considered only the part taken by Hunter in the introduction of the ligature. We have already seen that in September, 1785, three months after Desault's operation, he had nothing to suggest in the treatment of a femoral aneurism as large as a medium-sized orange, except compression of the artery in the groin, and that this was unsuccessfully tried. Three months later, December 12, 1785, he tied the femoral artery for a popliteal aneurism.

The case was reported by Everard Home in the *London Medical Journal*, 1786, p. 394, and again, with four similar operations done by Hunter and three by others, in the *Transactions of a Society for the Improvement of Medical and Surgical Knowledge*, London, 1793, p. 138. The date of the reading of the latter paper is not given, but that of the one that precedes it is September, 1789, and that of the one that follows it is September, 1790. The second account is almost a literal transcript of the first. I quote from the second:

The patient was a coachman, forty-five years old, and the aneurism "was so large as to distend the two hamstrings laterally and make a very considerable rising between them. . . . The operation was begun by making an incision on the anterior and inner part of the thigh rather below its middle, which incision was continued 'obliquely across the inner edge of the sartorius muscle, and made large, to give room for the better performing of whatever might be thought necessary in the course of the operation. The fascia which covers the artery was then laid bare about three inches in length, after which the artery was plainly felt. A slight incision, about an inch long, was then made through this fascia, along the side of the vessel, and the fascia dissected off; by this means the artery was exposed." A double ligature was passed around the artery [and vein] and "cut so as to form two separate ligatures. The artery was now tied by both these ligatures, but so lightly as only to compress the sides together. A similar application of ligature was made a little lower. The reason for having four ligatures was to compress such a length of artery as might make up for the want of tightness, it being wished to avoid great pressure on the vessel at any one part." [A fuller explanation of this practice is given in an earlier sentence (p. 145), as follows: "The cause of failure arises from tying a diseased artery, which is incapable of union, in the time necessary for the separating of the ligature." Apparently, Hunter thought that by tying the artery loosely more time would be given for the artery to become sealed before the ligature cut through. Certainly his intention was not simply to diminish the stream, for the ligatures cut through, and in his subsequent operations he used a single ligature and tied it tightly.] Secondary hemorrhage occurred on the ninth day, but was controlled by a tourniquet; "on the fifteenth day some of the ligatures came away, followed by a small discharge of matter, the tumor in the ham being lessened." In April, and again in July, more of the ligature came away, and on July 8, 1786, he was discharged cured. April 1, 1787, fifteen months after the operation, he died of remittent fever. His following four operations were similarly performed, except that in the fourth and fifth the artery alone, and not the vein, was tied. The second died of secondary hemorrhage on the twenty-sixth day.

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[1] London Medical Journal, 1788, p. 149. Cases of the Spontaneous Cure of Aneurism, by Mr. Edward Ford.

This is followed by the account of three operations performed after the same method by other surgeons, of one of which, by Pott, he says: "*This mode of operating* [italics mine] was adopted by Pott in a case of popliteal aneurism," and he goes on to describe how the artery, probably the popliteal, was exposed by "an incision five inches in length, upon the posterior part of the thigh . . . between the two hamstrings;" and he adds (p. 173): "The mode of taking up the artery in the ham must be always unfavorable to the future success of the operation, if either the artery itself should be diseased, or if the tumor, by being so contiguous to the violence done in the operation, should be affected by the consequent inflammation, which seems to have been the case in Mr. Pott's operation, as I understand two abscesses were found close to the sides of the sac." Here is the same operation as that done by Desault (ligature of the popliteal artery) and quoted by Home, in the first authorized account of Hunter's method, as an example of Hunter's method, and this in itself would be sufficient, even if it were not corroborated again and again in the article, to show that Hunter's only idea was to tie the artery without opening the sac, and the reason he gives for tying it at a somewhat higher point (two inches at the most) than Desault and Pott did is (*London Medical Journal*, and repeated by Home, *loc. cit.*, p. 146) that, "if the artery should afterward [after ligature of the popliteal] give way, there will not be a sufficient length of vessel remaining to allow of its being again secured in the ham. To follow the artery up through the insertion of the triceps muscle, to get at a portion of it where it is found [? sound], becomes a very disagreeable part of the operation; and to make an incision upon the forepart of the thigh, to get at and secure the femoral artery, would be breaking new ground—a thing to be avoided, if possible, in all operations." In one of the remaining two cases a femoral aneurism, extending to within two inches of Poupart's ligament, Mr. Cline tied the artery *half an inch below* the origin of the profunda, and, as the dissection showed, two inches above the orifice of the sac. This also is given in illustration of the method, and yet there could have been no collateral branches between the ligature and the sac; certainly none are mentioned.

In short, his one idea was to avoid secondary hemorrhage by tying the artery at such a distance from the aneurism that it would probably be found healthy, and to make the application of a second ligature easy if such hemorrhage should occur. Of the "excogitation of a principle by profound reasoning," of which Mr. Holmes speaks, there is not a trace in this account; of the second "great merit" attributed to him by the same able writer, "that it was not necessary to stop the circulation through it [the sac] absolutely, but only," as he said, "to take off the force of the circulation," there is no justification except this quoted phrase, which, in view of the fact that the ligatures divided the artery completely, although, perhaps, more slowly than if they were tied tightly, certainly can not have the meaning attributed to it of only diminishing the stream of blood, and which, even if it did, was abandoned after the first operation when he substituted a single ligature tied tightly for four ligatures tied loosely.

Moreover, the idea of curing an aneurism by simply diminishing the flow of blood through it was by no means new; it underlay all the preceding attempts to cure by compression, and was plainly included in Desault's lecture reported by Assalini and quoted above. It was not until after the ligature in continuity had shown that the danger of secondary hemorrhage was still present that very forcible compression, to effect complete and permanent closure of the artery, was tried as a substitute for the ligature.

The three grand merits claimed for Hunter (Holmes's *System of Surgery*, art. "Aneurism") are that he had seen: 1. That it was not necessary to turn out the clots; 2. That it was not necessary to stop the circulation through the sac absolutely, and that, therefore, the artery might be tied at some distance above it; and, 3. That the ligature of the main artery would not involve gangrene of the limb. Now, of these, the first was certainly known by Desault, through a post-mortem examination, and probably by most other surgeons, as is proved by their attempts to cure by compression. As regards the second, the fact contained in the first clause, that it was not necessary to stop the circulation completely, had been long known before his operation; and the inference stated in the second clause was not drawn by Hunter, and was not given as his reason or justification for placing the ligature at a higher point. Home's paper (which, it must be remembered, is an official one, and made in Hunter's name) does not contain a single reference to collateral branches given off between the ligature and the aneurism.[1]

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[1] The only reference to collaterals in the first paper is one (p. 399) to the effect that "surgeons have laid too much stress on the necessity of large collateral branches being present to insure the success of this operation, . . . since we find that the trunk of the femoral artery may be taken up in any part of the thigh without producing mortification of the limb."

The phrase "that simply taking off the force of the circulation is sufficient," which is also quoted as meaning that a diminished stream of blood was expected to be brought to the aneurism by collaterals, is the only thing in the entire paper that can suggest such an idea; and that neither this meaning nor the one above referred to—of only partly compressing the artery—was intended to be conveyed by it, is shown not only by actual statement of the reasons and objects of the operation, but also by a case which he quotes (p. 156) in illustration of his argument—a case of spontaneous cure of an aneurism by inflammation of the sac, accompanied by arrest of pulsation in the sac and in the artery immediately above it. If the phrase were written out in full to express the entire idea, it would read: "It is sufficient simply to take off the distending force of the arterial stream from the blood contained within the aneurism: the blood will then coagulate in the sac and in the adjoining part of the artery, and the progress of the disease will be stopped; it is not necessary to open the sac."[1] The opening of the sac is what he was thinking of when he used the word "simply," not of the presence or absence of collateral branches, not of merely diminishing the stream.

The third great merit—that Hunter saw that the ligature of the main artery would not involve gangrene of the limb—had been known for a hundred years, and had been proved by every successful case in which the old operation had been used, and also by Desault's ligature in continuity six months before.

Both Desault and Hunter had the same object in view: to cure the aneurism without opening the sac. Desault had a small aneurism, and tied the popliteal at its upper end. Hunter had a large one, and tied the artery a little higher up (he could not well have done differently). Desault, in his second operation, went still higher, and tied a little below the apex of Scarpa's triangle; subsequent operators have habitually tied in the triangle itself. Even the observation claimed for Hunter—that the artery was diseased above the aneurism, and that this was the cause of the secondary hemorrhage—had been made before him, and was given by Pott as a reason for preferring amputation to the old operation (Pott, *loc. cit.*, p. 220).

I see nothing in Hunter's operation radically to differentiate it from Desault's and to justify the ascription of the method to the English surgeon. It seems to me to be beyond question that Desault had grasped the principle, and the difference of an inch, or two or three or six inches, in the distance, is a matter of detail which is to-day subordinated to the rule that the artery should be tied at the nearest accessible point that does not directly involve injury to the sac.[1]

Why Hunter's name should have become so pre-eminently identified with it is to be explained by reasons entirely independent of the principle involved, and of the measure in which that principle was grasped by the two great rivals. Hunter enjoyed a great authority and was widely known; his example was followed, his practice was quoted by those who wrote in our language. Desault lived and made his great discovery at a time when his nation was entering upon a revolution that shook the world and isolated France by war for nearly twenty-five years; he made it at a time when men were occupied with mighty interests beside which the advances of science seemed as nothing; at a time when, to Lavoisier pleading for another fortnight of life that he might complete certain experiments, the answer was: "The Republic has no need of such." What wonder that at such a time and amid such surroundings his discovery should have passed unheeded by those about him, and have remained unknown by those who were at war with his country? It is our privilege, our duty, to recognize his work and to give him the credit that is his due.

OBSERVATIONS IN ONE HUNDRED AND THIRTY-SEVEN ABDOMINAL SECTIONS.[2]

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The cases upon which these observations are founded were operated on by various operators in Scotland, England, Germany, Austria, France, and the United States. Twenty-nine of them have been operated on by myself at Pittsburg, Pa. The cases comprise McDowell's, Battey's, and Tait's and Hegar's operations on the ovaries and tubes; cholecystotomy; supravaginal hysterectomy; resection of the pylorus; resection of portions of the bladder-wall and of the small intestine. Cases for McDowell's operation—ovarian cysts—are, as a rule, a comparatively poor class of patients, in our own and other lands. It seems more than probable that poverty, with its hardships, is a leading element in the causation of these tumors. In the United States the rule has been to operate after the general health has been broken, and to do the operation at the home of the patient. In England, Scotland, and Germany early ovariotomy is much more frequent, and the patients are usually lodged and operated on in hospitals especially intended for such cases. In these countries the best statistics prevail. In Austria the cases, so far as my observation went, were older, the tumors were larger, the adhesions were numerous, and they were treated in the "general hospital." The results were not as good as in the countries already mentioned. Nearly every—yes, we might say *every*—ovarian tumor is at some time free from adhesions, and, we may say, that all young ovarian tumors are easy of removal, and the operation, when thus simple, is not dangerous. If a patient neglects herself, or if a bad medical adviser treats her with the trocar and persuades her to wait until death stares her in the face, before consenting to an operation, the result is adhesions and neurasthenia, and probably brown atrophy of the heart or atrophy or engorgement of the kidneys; and such cases will ever yield a large mortality, let the operator be whom he may. I have been gradually approaching three conclusions in my own mind:

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[1] Compare the corresponding paragraph in the *London Medical Journal*, letter of Home, November, 1876, p. 393.

"From these considerations [those quoted above about the desirability of not breaking new ground], suggested by the accident of the artery giving way, which happened several times to Mr. Hunter, he proposed, in *performing this operation*, that the artery should be taken up at some distance from the diseased part, so as to diminish the risk of hemorrhage and admit of the artery being more readily secured, should any such accident happen. *The force of the circulation being thus taken off from the aneurysmal sac, the cause of the disease* would, in Mr. Hunter's opinion, be removed; and he thought it highly probable that, if the parts were left to themselves, the sac, with the coagulated blood contained in it, might be absorbed, and the whole of the tumor removed by the actions of the animal œconomy, which would consequently render any opening into the sac unnecessary." (Italics mine.)

[1] It seems unnecessary, in view of these facts, to consider the question whether or not Hunter knew of Desault's operation before performing his own. The facts bearing upon it are that Assalini was present at Desault's operation, afterwards went to London, and was present at Hunter's first operation, and that Hunter, three months before his operation, seems to have made no suggestion of this treatment in the case of femoral aneurism quoted above which he saw in consultation, and which, after a futile attempt to cure by compression, was abandoned to its fate.

[2] Read at the Annual Meeting of the American Academy of Medicine, at Baltimore, October 29, 1884.

First. Nearly all cases of ovarian cystomata recover if operated on early under proper precautions.

Second. A very large number of cases of ovarian cystomata die if operated on after frequent tappings and long delay, in their own homes, under ordinary precautions.

Third. That simple cases and a well-regulated special institution for the work will always be the mainspring of success in McDowell's operation.

An ovariotomy done early may be considered one of the easiest of surgical operations, and one of the safest, if the environment of the patient is right. Certainly a simple ovariotomy is no evidence of great surgical skill. But, with a neglected case, the affair is very different; the operation will always be difficult and will often tax all the skill any living surgeon can bring to the case, and I have seen good surgeons fail to get the cyst out. On the other hand, I have seen portions of the intestine and bladder resected with the cysts. The future improvement of the statistics of our own land will depend upon two things, mainly—first, earlier operations; second, on greater precautions of safety in regard to the operator and the place of operation. So long as the operation is done by ones and twos, by everybody, there will be no good come of it. Age is not a barrier to ovariotomy done early—old subjects do well. The Tait-Hegar operation for the removal of the ovaries and tubes depends largely on the existence or non-existence of adhesions for the ease or difficulty of its performance, and, while simple cases are easy, others are very difficult. After the operation is completed, the most important point is to leave the peritoneal cavity dry. Age is scarcely debatable in these cases; they are all, as far as I have observed, young subjects. As a rule, young subjects do best, but often elderly subjects bear the gravest intra-abdominal operations very well. Resection of the intestine, when required in the course of other operations, or for some special purpose, may be undertaken with fair prospects of success.

Supravaginal hysterectomy gives good results, but the operation is not yet as fully established, in all its details, as ovariotomy. Operators differ much in regard to several points in it. We will speak of it again.

Climatic influences have, probably, little to do with results in abdominal surgery. It took shape in hot Kentucky and reached its best proportions in cold Scotland, swept by the winds of the North Sea. Cæsarean section is successful in equatorial Africa, and London and Berlin give, for the best operators, about the same results. Scotland, with her bleak, cold winds, has been as sparing of the unfortunate as has the midland section of England, with her more genial climate. Pure air, hot or cold, in bountiful supply, is of the utmost importance in the apartments of those recovering from surgical operation. The antiseptic wave has swept by; it has left us all the cleaner; it has done immense good. If we will continue to "wash and be clean," even to the minutest details, carbolic acid or other chemical spray may be dispensed with. A greater precautionary measure than chemicals lies in the daily habits of the operator, his assistant, and his nurses. Fewer spectators will insure less risk of infection. Crowds about an abdominal section are more dangerous than climatic influences.

The methods of operating differ very much. Some operators are surrounded with an army of assistants, nurses, and spectators. Others employ but one, or at the most two assistants. The latter have, thus far, the best statistics. Spray is still used by some, but the most successful operators have abandoned it. The prevention of the loss of blood is of great importance, and stands next to drying out completely the abdominal cavity after the operation. In McDowell's operation the most successful treatment of the pedicle has been by Baker Brown's clamp and cautery in the hands of Dr. Thos. Keith. Ligation and division of the pedicle with Pauquelin's cautery has also proved excellent; ligation of the pedicle and division with knife or scissors is an established method. The intraperitoneal method of treating the pedicle is the best. The introduction of the clamp, by a great and good English surgeon, was a misfortune. Its long use and support by England's greatest ovariotomist was a great misfortune, and the probable cause of a record below that of the great Scotchman who has upheld the name of Baker Brown and placed his method alongside the best statistics extant. In supravaginal hysterectomy the question of disposition of the pedicle is the most important *sub judice*. The Germans favor the intraperitoneal method; the English and Scotch the extraperitoneal method. The latter, thus far, show the best results. The means they employ is a clamp or wire loop, Kœberlé's serre-nœud being generally preferred. Mr. Tait uses a wire clamp of his own construction. In the Hegar-Tait operation the pedicle of the ovary and tube is secured by ligature, and is dropped into the pelvic cavity. Nearly all operators stand on the right side of the patient and cut from above downwards. Schröder, of Berlin, reverses this. He stands on the patient's left and cuts from below upwards. He differs from others in this, that he uses no trocar, but opens the cyst with his knife. Péan, of Paris, and Martin, of Berlin, sit, while operating, between the legs of the patient. Simplicity of manner is the easiest and most commodious; the standing position on the patient's right is the best. When a cyst is multilocular, a trocar is safest, for all fluids are not bland; some are irritating and least likely to escape into the abdominal cavity when a trocar is used.

As the cysts are emptied, the abdomen should be filled with warm sponges, that the intestines may be protected from chill or soil. Adhesions are best treated by ligation and division with Paquelin's cautery. This applies to laparotomy for fibromyomata as well as for ovarian cystomata. In supravaginal hysterotomy the pedicle may be treated variously. The vessels reaching it may be secured by ligation of the ligamenta lata, and safety be further secured by ligating the stump itself, which may be left in the peritoneal cavity. If the extraperitoneal method be adopted, a pin should be passed through the cervix, at right angles to its axis, and beneath this pin may be placed Kœberlé's wire noose. Or Mr. Lawson Tait's wire clamp may be used without the pin. The pin will rest across the wound when closed. As the wire sinks into the tissues, day by day, it should be tightened with the screw. The best super-dressing after hysterectomy, with the stump outside, is iodoform gauze. Perchloride of iron should not be used on the pedicle. Dr. Bantock has had fine success with thymol gauze, and Dr. Keith with an eight per cent. solution of carbolic acid, in glycerine, applied on gauze well saturated. Drainage in intra-abdominal operations should be resorted to only in cases when it is not certain that the bleeding is all arrested; where many adhesions were divided without the cautery, and when the peritoneum is so irritated that it is almost certain to throw off much serum. Drainage-tubes, during the first twenty-four hours, create but little, if any, irritation; but after this time expires they are constant sources of danger if left. Excision of the pylorus for carcinoma, like operations for the malady in other parts of the body, is not yet fully established as a legitimate, or rather advisable, operation. In those cases I have witnessed the operation was successful, but the disease is almost sure to return elsewhere. Wölfler's operation of uniting the stomach and duodenum by new openings is probably as likely to be as productive of relief as resection of the pylorus. Opening the stomach and dilating the pyloric orifice for stricture is not only a feasible but good operation, and the same may be said of gastrotomy for foreign bodies. In all these operations, as well as in enterotomy, the best suture is silk well scalded or boiled, either in plain water or a one in twenty solution of carbolic acid. In uniting the ends of intestine, or the walls of the stomach, the sutures should not include the mucous membrane, and the first row should be fortified with a second, including only the peritoneum—a combination adopted by Czerny and Lembert.

Sponges, in intraperitoneal surgery, are to some objectionable. Kœberlé abandoned them eleven years ago, using only clean napkins. Wet instruments are more comfortable, and, if taken directly from the bath and replaced again until needed, they insure greater cleanliness. Blood does not dry on them, and they are more easily cleansed after the operation is completed. The best appliances for arresting hemorrhage are Kœberlé's hemostatic forceps. For closing abdominal wounds, straight, smooth, well-pointed needles are the best, and for uniting intestinal surfaces, a curved needle, without a cutting-edge, is excellent. While silk is the best suture to leave inside of the abdominal cávity, it is second to the silkworm-gut for uniting the abdominal wound. The latter suture should be used wet, and is superior to silver wire; it may be left in the tissues indefinitely. The manner of operating in intra-abdominal operations differs widely, but simplicity, and care in the details of preparation and finishing, are two very important points. I may be pardoned for intruding upon you my own habits in regard to abdominal operations.

The preparations are of greater difficulty and con sume more time than the operation itself. The preparations involve,

a. The room in which the patient is to be operated.
b. The instruments and sponges.
c. The preparation of the patient herself.
d. The preparation of the nurses.
e. The preparation of the operator and assistants.
f. The admission of spectators.
g. The operation.

a. The room contains no furniture beyond a bed, a table, and chair. The floor is bare. The walls and floor are scrupulously cleaned with soap and water, as is also the scanty furniture; as soon as dry, the floor is wet with mercuric chloride 1–2000.

b. The instruments are all scalded, then cleaned with soap and water, then rescalded and dried, then one by one are put into an alcoholic bath and dried again. Each forceps, tenaculum, and needle is passed through the flame of a spirit-lamp. They are now placed in order in clean brass pans and left carefully covered with clean towels, until the hour of operation arrives. The sponges are taken directly from a five per cent. solution of carbolic acid, in which they have remained for at least seven days.

c The patient receives a full dose of compound liquorice powder, often with a drachm of sulphate of magnesia, thirty hours before the time of operation. On the morning of operation day (hour 2 P.M.) she receives a complete washing in the bath-tub, and her vagina is also exposed to a copious douche of hot water From the bath she goes into clean clothes, and into a clean bed adjoining the operating-room. She has a full breakfast, and does not know that her operation is coming until she is refused dinner at 1 P.M., when she can only suspect it.

d. The nurse or nurses (never more than two) who assist, take a bath and dress in fresh clothes.

e. The operator and assistant do the same, and on the eve of beginning, all hands are washed in turpentine and then with soap and water. One nurse gives the anæsthetic, one waits upon me, and my assistant stands opposite me.

f. Spectators are limited to the patient's physician and two others. They touch nothing, and I usually insist that all coats be left in the hall.

g. The operation: The patient is anæsthetized by the nurse, and carried on a board to the table. She is firmly secured, a can of hot water is placed at her feet. Her abdomen, chest, and extremities are covered with a rubber sheet, exposing only the region required for the site of operation. Over the rubber sheet are placed towels wrung out of boiling water. The surface exposed is now rubbed off with a wet carbolized towel. As the operation proceeds, clean towels are thrown over the soiled ones. The instruments are lying in a bath of hot water, at the right of the operator. The sponges are steaming in a double bucket, ready for use. In summer no fire is used; in winter a temperature of at least 80° surrounds us all.

The operation is done slowly; the anæsthetic is given sparingly, after the start is made. The sole responsibility for the operation is concentrated in the operator. Every drop of blood is considered valuable and is saved, if possible. The cavity of the abdomen is left dry, and the wound, after being closed very accurately, is covered with antiseptic dressing of iodoform and carbolized cotton.

With the small force enumerated, all intra-abdominal operations are done. As soon as the dressing is secured and the patient released, she is removed to a bed already well warmed by means of hot water cans. A third of a grain of morphia is given hypodermically, and she is left to the nurse.

If a drainage-tube has been left in the lower angle of the wound, it consists of glass and reaches to the bottom of the pelvis. Its mouth is secured by a sponge held in place by a thin rubber sheet, which is perforated by the tube. The sheet is folded around the sponge. The tube is frequently examined, and a little iodoform is dropped into it, after it is emptied by the suction of a syringe, to which is attached, by means of a rubber joint, a celluloid catheter with the curve cut off.

I never leave a drainage-tube without feeling that while it may do good, it may do harm; and I always feel better about the case when I get the tube out.

Abdominal operations are growing more frequent every day. Even in my little field of work, within a period of twenty months, I have opened the abdomen twenty-two times, removing ovarian tumors, uterine tumors, ovaries and tubes, both ovaries and uterus above the vaginal attachment, opening and draining through the wound suppurating pelvic hematocele, and resecting the small intestine. Still the field widens and there is much to do. With great patience and much expense, this branch of work will do well as to results, but it requires an enormous amount of it to afford a living. Sometimes I am asked about a diagnosis. For a year or more, I never worry about a diagnosis. Professor von Billroth told me, three years ago, that he didn't care about it any more; and Mr. Lawson Tait told me, that he couldn't always tell what sort of wood lay under the table-cloth. I followed my teachers and I now look out for pregnancy, cardiac and renal diseases only, and leave the character of the growth to be determined on the operating-table. Of course, there are plain cases, but if the cases are doubtful, I abide the time of operation to determine the character of the case.

In regard to selection of cases for abdominal section, a few words may be well said. Some cases are absolutely plain. A man or woman with a bullet-wound through the abdominal cavity could scarcely be considered as having a chance for life with a doctor who simply sat by, gave opium, and waited the time to write the death certificate. Yet, in the city of Pittsburg, with well-nigh a quarter of a million of souls, this is the rule of practice. It is not long since a woman shot through the abdomen lived a week, lulled by opium to death; the post-mortem revealed an intestine severed by the bullet. Can we afford to sit by and give anodynes in such a case, simply because the ignorant relatives oppose a surgical operation? Is it our duty to retire and refuse the responsibility?

Enough may have already been said in reference to cystomata. But there are cases offering for ovariotomy which, I am sure, should be refused operation. Given such a case, tapped a dozen times, the health all shattered, the last drop of life ready to depart with the last ten-dollar left in her pocket by the persistent tapper, who even demands this to pay his expenses to town to see the operation done. Is a man with a decent record called upon by humanity, or anything else, to operate on such a case? Is it sufficient excuse for any man to go on tapping an ovarian cyst, month after month, simply because the ignorance and the timidity of the patient demand it? When a doctor knows that repeated tapping is destroying a patient's chances of ultimate cure, and goes on doing it, he is doing an injury to the patient, to himself, and to the profession. Cases thus ruined have no just claims, in themselves or through their doctors, to surgical operation at the hands of any man who values his statistics. The death of every such case after operation puts another life in jeopardy, because it makes her stand off and avoid early operation; I have had my share of these deplorable cases, and I am every day getting nearer to that state of determination when I will refuse to operate upon them. In hysterectomy for fibroids we find a field very different from ovariotomy. Every fibroid tumor will not of necessity destroy the woman. If she is seen early, oöphorectomy, or even judicious treatment, may be sufficient. But when the tumor is large, or has undergone cystic degeneration, hysterectomy may be demanded. The only cases I am really afraid of under these circumstances are those in which the pelvis is full of the tumor. When it dips down onto the rectum, between the layers of the broad ligament, and fills the pelvis almost entirely full, the upper end of the tumor reaching above the umbilicus, the case is desperate.

Twice I have gotten such tumors out with the uterus and ovaries. In the first case I wounded the rectum in the enucleation. In the second case I accomplished the removal perfectly. The first case died of exhaustion, and there was some infection evident. The second case developed tetanus, and died nearly a week after the operation. Kœberlé speaks of the difficulty of these cases. Another set of difficult cases are those in which the adhesions are large and numerous, and in which a suppurative peritonitis is liable to follow the operation. If a fibroid tumor is causing no distress, is not affecting the health of the patient, is not growing, it is wisdom to let it alone. If, on the contrary, it is bleeding the patient, growing, and distressing her, or interfering with her earning her daily bread, the case is one for surgical operation. Should, however, her menopause be near, the hemorrhages should be treated and an effort made to hold over surgical operation until the effort of the menopause is given a chance to arrest the progress of the growth. Many cases are not plain, and no amount of examination is likely to determine them before exploratory incision is made. This procedure is safe under proper precautions and is legitimate.

The most important point now under judication, in abdominal work, is the place in which the operation should be done. Thus far it will be found that the house of the patient has given the worse statistics, and Mr. Lawson Tait says "a woman who has ovariotomy done at home is a fool for her pains."

The method of operating may be followed anywhere, possibly, but the quarantine of a special hospital is very important, and the surgeon has full control of his patient. In England and in Europe hospital facilities have given the best results; we may instance the statistics of Wells, Bantock, Thornton, Tait, and Keith. In our own country we will come to it, and it is fair to believe that our statistics will be improved by it. My own hospital has only been open a year, with a great variety of cases, many of them really of desperate character. I have not lost a McDowell operation in it so far, and, in five supravaginal amputations of the uterus and ovaries, three have recovered and two have died. My institution is very young; my help was all to train; I get only the worst cases, so far, and it will take another year or two to decide what the institution will do for my own statistics. But I am so convinced as to the aid foreign operators get in this way that I wish to try on with it. Frequently men write to me asking when they can see a lot of abdominal operations. In our country the opportunities of learning abdominal operations are not very good. The amount of work going to a single operation is not very large, as a rule. On the other hand, very few operators open the abdomen, excepting for ovarian tumors. What is wanted now, most of all, to improve this branch of surgery, is a clinic for abdominal surgery. Such a clinic should be protected against infected spectators, but open to a limited number daily who will observe the restrictions which should be imposed. It should be completely equipped, and have connected with it twelve beds, in twelve private rooms, and should be exclusively under the command of one surgeon. There are very few institutions in the United States which could afford this feature of education. But if the Johns Hopkins University of this city would add this feature, it would greatly benefit the profession and do a great deal for suffering humanity also.

A CASE OF FRACTURE OF THE PELVIS TREATED BY THE PLASTER BANDAGE.

By I. S. STONE, M.D.,
OF LINCOLN, VA.

J. C., æt. 20, male, was run over by a heavy cart drawn by oxen on December 11, 1883. The patient was thrown down on his face, the wheel passing diagonally over the sacrum, depressing that bone, and separating it from the iliac bone of the right side. Two hours elapsed before patient was seen and examination made. After considerable effort the patient rallied from shock sufficiently to permit the nature of the injury to be ascertained. The right posterior sacro-iliac ligament was evidently ruptured, allowing considerable motion and a dull crepitation. The motion laterally was sufficient to allow the fingers of the left hand to be passed between the sacrum and iliac bone. Careful examination of the rectum and bladder failed to show any lesion of pelvic organs.

Patient was enveloped in a broad bandage and allowed to remain for three days, when he was found doing well, and without any evidence of serious internal lesion. The right leg was in a state of anæsthesia, and the bladder temporarily paralyzed. These symptoms, however, rapidly diminished, and caused no trouble after ten days.

After consulting all convenient surgical authorities and finding nothing satisfactory in regard to treatment, I decided to apply the plaster bandage, which was done successfully. The patient was laid upon chairs separated opposite the pelvis, thus facilitating the application of bandages. The bandage was made to extend from the lumbar region well down upon the thighs, thus preventing motion of hip-joint. Sufficient space was allowed near the anus for discharges, the bedpan being used.

The result was all that could be desired. In six weeks all pain and nearly all soreness had disappeared. In two months I had the patient placed upon his feet, which gave no great discomfort. In ten weeks the jacket was removed and passive motion instituted. In a short time the patient gained sufficient strength to walk with help and rapidly gained in health and strength, until now his recovery is complete and he is about his usual employment.

June 6, 1884.

MEDICAL PROGRESS.

A NEW PLAN OF OPERATING ON MENINGOCELE.—MR. NOBLE SMITH reports the case of a child, fourteen days old, who had a meningocele. The sac was formed of healthy skin, and could be emptied by pressing its fluid contents into the cavity of the skull, a proceeding which caused the infant to cry. With regard to the treatment, he tried in the first place the effect of pressure. He made a cast of the tumor, upon which was moulded a piece of gutta-percha. From February 1st the pressure was gradually increased until March 31st, when, finding no improvement had taken place, he resorted to the following operation: The sac was emptied by pressure and its two sides held together between his finger and thumb. His intention was, not to inject into the cavity of the sac, from which the fluid would have free access into the ventricles of the brain, but if possible to inject into the wall of the sac close to the lining membrane. He used a hypodermic injection syringe and pierced the sac as it was held between his finger and thumb, directing the point *just to one side of the median line.* The latter line would, of course, represent the cavity of the sac, which, for the time being, was obliterated. He must have penetrated very near to this cavity, but did not pierce it; for, upon injecting the fluid, there was considerable resistance to its entry, although he had ceased to hold the sac and the latter had refilled. If the needle had penetrated the sac, the resistance would have been certainly slight, and the after-effects might have been severe. He could only inject a few minims of iodoglycerine (about eight); the child cried, and continued to evince symptoms of discomfort for the next two hours, when he fell asleep, and subsequently awoke, seeming to be quite comfortable, and remaining so. Upon April 15th he injected the tumor again in the same way. On April 23d the child's general health was good, the tumor felt firm, as if it was consolidating; he therefore ventured to pierce it to the centre with the needle and injected more iodoglycerine. Upon May 1st he found that no bad symptoms had followed the last operation; the tumor was feeling firmer. He repeated the injection on May 14th, and again on June 15th; upon the last occasion he left at least twenty minims in the centre of the tumor, which was a larger quantity than he had hitherto used. On July 14th the child was quite well, the tumor was contracted to a flattened corrugated mass of skin, and the case cured.

By injecting into the walls of the sac, we not only prevent the iodine from entering the cavity of the skull, but we also attack more directly the part which we wish to influence, namely, the sac, which we wish to contract. —*Lancet*, September 20, 1884.

THE DIAGNOSIS OF SMALLPOX PUSTULES.—C. BAREGGI, in order to diagnosticate between variolous papules or pustules, and those of varicella, punctures them with a lancet, and obtains some of the fluid contents; with this he makes a dry preparation and colors it with methylene blue. Under the microscope the preparation, if variolous, shows a number of the cocci described by Klebs as characteristic of smallpox. Bareggi has not found these in preparations from the pustules of other diseases.—*Centralbl. für klin. Med.*, September 20, 1884.

MICROCOCCI IN RELATION TO WOUNDS, ABSCESSES, AND SEPTIC PROCESSES.—MR. W. WATSON CHEYNE, in his report on this subject to the Scientific Grants Committee of the British Medical Association, thus sums up the chief points of interest in his paper:

1. There are various kinds of micrococci found in wounds treated aseptically, differing markedly from each other in their effects on animals. They agree in growing best at the temperature of the body, and in causing acidity and sweaty smell in the fluids in which they grow. The experiments show that cultivations may be carried on in fluids with accuracy, provided the precautions mentioned be observed.

2. The micrococci tested in these experiments grew best in materials exposed to oxygen gas. They grew only with difficulty in the absence of oxygen. Eggs were not good pabulum.

3. Their effect on animals was not altered by growth with or without oxygen.

4. The effects of these micrococci on rabbits and man were not similar, some of the most virulent forms for rabbits causing no deleterious effects in wounds in man.

5. The kidney is apparently an important excreting organ for organisms.

6. Organisms not capable of growing in the blood may yet cause serious effects by growing in the excretory canals. This may explain some cases of pyelitis.

7. Where an organism is not markedly pathogenic, it may be necessary to introduce a large quantity before morbid changes are set up.

8. Suppuration is not always due to micrococci, it may be caused by chemical irritants, such as croton oil.

9. Micrococci are always present in acute abscesses, and are probably the cause of them.

10. In some cases the micrococci are the primary cause of the inflammation and suppuration, as in pyæmic abscesses; generally, however, they begin to act after inflammation has been previously induced.

11. This inflammation may be caused by an injury, by the absorption of chemically irritating substances from wounds, by cold, etc.

12. There are several different kinds of micrococci associated with suppuration.

13. Micrococci cause suppuration by the production of a chemically irritating substance, which if applied to the tissues in a concentrated form, causes necrosis of the tissue, but, if more dilute, causes inflammation and suppuration.

14. The conditions in wounds and abscesses are not the same, inasmuch as in the former there is opportunity for mechanical and chemical irritants to work.

15. There is no reason for denying the existence of "antiseptic suppuration."

16. Tension may also cause suppuration, but it is perhaps most frequently aided by the growth of micrococci. These organisms need not be of a very virulent kind. It is also probable that the products of inflammation are themselves irritating and capable of exciting or keeping up inflammation.

17. The microörganisms of septicæmia, of pyæmia, and erysipelas are different from one another and from those of abscesses. In erysipelas the micrococci grow in the lymphatic spaces. In pyæmia, they grow in the blood to form colonies and emboli. In septicæmia they may only grow locally, the symptoms being due to the absorption of their ptomaines; or if they grow in the blood they do not form colonies and emboli. Septicæmia may also be due to other organisms besides micrococci.

18. There are no facts to support the view that it is the same micrococcus which, under different conditions, causes these various diseases. The experiments of conversion of innocent into malignant forms, and *vice versâ*, are unreliable.—*British Med. Journ.*, Oct. 4, 1884.

LOCALIZATION OF THE CORTICAL MOTOR CENTRE OF THE LARYNX.—In a paper on this subject, read at the eighth meeting of the International Medical Congress DR. D. BRYSON DELAVAN, of New York, after giving two cases, concludes:

1. That there is a cortical centre of motion for the larynx.

2. That this centre is in the course of the anterior branch of the middle cerebral artery.

3. That it is toward the proximal end of this vessel.

4. That it is in the vicinity of the convolution of Broca.

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LOCAL ANÆSTHESIA BY COCAINE.

Dr. Koller's observation of the effects of cocaine, in diminishing the sensibility of the eye, has been taken up with great enthusiasm by ophthalmologists, and numerous experiments and clinical observations have already appeared in print. In this country, especially, has the interest awakened by this important discovery borne practical results in various ophthalmic procedures. Dr. Noyes, of New York, had the good fortune to witness the application of Dr. Koller's solution to a patient brought for that purpose before the Ophthalmological Congress at Heidelberg in September last. Since the publication of these observations, Drs. Knapp, Roosa, Agnew, and others have made more extended investigations, which entirely confirm the first statements regarding its anæsthetic and analgesic powers.

Long before Koller's observations were made, it had been known that cocaine possessed the property of lowering—even of destroying—the sensibility of the sensory nerves. This physiological property had been ascertained by Schroff, but was more definitely established by Moreno y Maïz, whose monograph on the erythroxylon coca appeared at Paris in 1868 (*Die Pflanzenstoffe*, pp. 91-93). The latter distinctly states that cocaine has the power to impair sensibility when locally applied (*Ibid.*, p. 93), and is consequently entitled to the distinction of having made this important discovery. Dr. Koller has simply revived knowledge already existing; his merit, indeed, is less than this, for laryngologists have been using a cocaine solution locally to diminish the sensibility of the larynx to facilitate manipulations on that organ. *Palmam qui meruit, ferat.* The investigations of an American physiologist have, also, been quite overlooked. Dr. Ott made an elaborate study of cocaine, and demonstrated its chief properties, ten years ago (*Cocaïn, Veratrin, and Gelsemium*, Philadelphia, 1874). He showed, by experiments on animals, that at first and in small doses it stimulated, and afterwards in sufficient doses entirely destroyed, sensibility, and that this result is due to an action on the posterior columns of the cord and on the sensory nerves.

All observers are agreed that cocaine is a mydriatic. Knapp has shown that "it is a mydriatic which, even in producing a maximum dilatation of the pupil, takes away only a fraction of the power of accommodation." The mydriatic effect, further, is peculiar in that "the accommodative power is restored much sooner than the normal size of the pupil." The dilatation of the pupil begins in from ten to twenty minutes after the solution is instilled into the eye, and reaches its maximum in from thirty to forty minutes, remains stationary for half an hour, and then slowly declines, disappearing wholly within twenty-four hours (Knapp).

It is a fortunate circumstance that cocaine does not irritate the eye, and, when the solution is instilled, no pain or discomfort of any kind is caused by it. The sensibility of the eye begins to lessen in three minutes, and continues to diminish for about twenty minutes, when a restoration to the normal rather quickly takes place, the sensibility being restored in about a half-hour. The same strength of solution is not equally effective in all persons; there are the same variations in susceptibility as are manifest in the actions of other narcotics, but, on the whole, the qualitative effects are remarkably uniform.

Two per cent. is the strength of the solution which has been chiefly employed, but this is not strong enough in many cases. A four per cent. solution will, probably, prove most generally suitable. As the analgesic action continues about half an hour, and begins within five minutes after the application, we have in these data the guides to the time and number of instillations necessary. Every four minutes for twenty minutes previous to the time of the proposed operation, three, four, or five drops should be put into the eye. If the procedure undertaken occupies more than five minutes, renewed instillation becomes necessary at the same rate as before.

The application of cocaine will probably facilitate manipulations of various kinds. Reference has been made above to its utility in laryngological operations. Roosa has employed it with success in "tympanic neuralgia"—two instillations relieving the pain in ten minutes. Knapp ascertained by actual trial that the preliminary injection of cocaine solution, rendered the passage of urethral instruments painless.

The foregoing facts indicate a wide range of usefulness in the applications of cocaine. It promises to facilitate in a remarkable degree various operations and manipulative procedures on the eye, ear, larynx, urethra, and rectum. As it removes the sensibility of the sensory nerves, and is itself free from irritating qualities, subcutaneously, probably, it will be found to relieve peripheral neuralgia, and other local painful affections. How far its systemic action will antagonize painful states of the sensory nerves remains to be established, but as it influences the sensory columns of the cord as well as the spinal nerves, there is a high degree of probability that it will prove effective in such cases.

Cocaine is an alkaloid obtained from *Erythroxylon coca*. It has decided basic properties and combines with acids to form salts. The alkaloid itself is but slightly soluble in water, but the salts dissolve readily. The hydrochlorate, has, thus far, only been employed for the purposes above mentioned.

The only officinal preparation of erythroxylon is the fluid extract, and this appeared for the first time in the Pharmacopœia of 1880.

OSTEOTOMY FOR GENU VALGUM.

AT the recent meeting of the International Medical Congress at Copenhagen, DR. MACEWEN, of Glasgow, read a paper on supracondyloid division of the femur for knock-knee, which is published in full in the *Lancet* for September 27th. In this communication he gives the results of his individual experience of the operation up to July 31st of this year; discusses the relative value of his own and other procedures, as established by statistics; and compares the results of the various operations as to ease of performance, liability to accident during their performance, mortality, utility of the limb, removal of the deformity, and relapse.

In Macewen's operation, it will be remembered, a transverse section of the femur is made from the inner side, a short distance above the epiphyseal line, the incision being practised at the point of bisection of a line drawn transversely a finger's breadth above the upper border of the external condyle and a line drawn parallel to and half an inch in front of the tendon of the adductor magnus. This point is below and anterior to the anastomotica magna, and above the superior articular artery.

All of his 820 personal operations were performed with the osteotome, under the spray, and with strict Listerian precautions. In 8 cases suppuration took place, the cause in 6 being pressure or some extra force applied under accidental circumstances; in 1 there was relapse to a slight extent; in none was there hemorrhage; while 5 died, but in none was the fatal result due to the procedure. The average duration of treatment was six weeks in the splints, and two weeks in the wards after that, while learning to walk. The patients were then advised to go to the convalescent home for two weeks, and three months in all sufficed to fit them for their occupations. In all cases there has been improvement in the form, strength, and utility of the limbs, which have been rendered quite straight when there were no complications from other rachitic causes, and not a few persons have been enabled to occupy situations from which they had previously been debarred.

In addition to his own, Macewen has collected 580 additional cases from the practice of other British surgeons. Of the combined number, or 1400, there was hemorrhage in 2, suppuration in 40, relapse in 5, ankylosis in 2, and a fatal result in 10, after but not from the operation, as only 2 were fairly ascribable to it.

While it is true that hemorrhage was only met with in two of the foregoing cases, in neither of which was it alarming, it must be remembered that profuse, and even fatal, bleeding may attend the procedure. Thus, Langton has recorded in the *Lancet* for March 29, 1884, a death, after amputation of the thigh, on account of gangrene consequent upon ligation of the popliteal artery, which had been punctured by a sharp spicula of bone which projected from the lower fragment. McGill has reported in the *Lancet* for May 17, 1884, a case in which the popliteal was completely divided, but the patient made a good recovery after ligation of both ends; and Marsh has recorded in the *British Medical Journal* for April 5, 1884, an example of wound of the anastomotica magna, which was successfully secured on the seventh day, on account of recurring hemorrhage.

The comparative merits of the remaining procedures for genu valgum are set forth in the figures collected by Macewen. Of 525 cases of Ogston's operation upon the condyle, there was hemorrhage in 13, suppuration in 8, and ankylosis in 4. Of 15 examples of Chiene's removal of a cuneiform piece of the condyle, there was hemorrhage in 1, suppuration in 1, ankylosis in 1, and relapse in 2; while the 5 cases of Schede's cuneiform osteotomy of the tibia recovered without an accident.

That the supracondyloid operation for genu valgum is the best, and that it will supersede all others, is shown not only by the statistics which we have quoted, but by the discussion which followed the reading of Macewen's paper. Professor Ogston declared that he was forced to come to the conclusion that, for simplicity and good results, Macewen's procedure was better than that which he had himself advocated. Professor Chiene confessed that his own operation had not commended itself to the profession generally, and that, although he could not entirely abandon it, he would give the supracondyloid method a fair trial; and Professor Schede stated that he generally substituted Macewen's for his own procedure, reserving the latter for the exceptional cases in which the tibia alone is at fault.

NERVOUS ALBUMINURIA.

Under this title Prof. Laschkewitsch, of Charcow, reports in the *Wiener med. Wochenschr.*, August 30th, a case of albuminuria with general anasarca, most marked in the lower extremities and genitals, less in the abdominal and still less in the chest walls, while œdema was altogether absent in the face. The albuminuria, which was large, was unaccompanied by any other symptoms of heart or renal disease, except the dropsy; but according to the patient's account, eight months previously there occurred impaired sensibility in the right arm which gradually involved the whole right half of the body. Soon the dropsy supervened, first in the right arm, and extended thence in the same order as the paralysis, first over the right side and then to the left. Perspiration was also much diminished, especially upon the right side. The temperature on the right side of the body was .7° to 1.2° F. lower than on the left. The twenty-four hours' quantity of urine was increased, being from 84 ounces to 100 ounces, sp. gr. 1007; the pulse was 84, and of good volume.

For these reasons Prof. Laschkewitsch prefers to regard the albuminuria and dropsy as angioparalytic in their origin, due to some condition of the nerve centres. Such a conclusion is quite consistent with the results of the experiments of Bernard, who produced polyuria with albuminuria by irritating the floor of the fourth ventricle above the seat of the sugar puncture. Section of the spinal cord in rabbits below the seventh cervical vertebra is followed by a like result; and Prof. Laschkewitsch had himself the opportunity of observing the same effect follow injury to the spinal cord in man, by a pistol-ball which entered the spinal canal between the third and fourth dorsal vertebræ. So, too, section of vaso-motor nerves of the kidney by von Wittich, Ludwig, and Hermann, has been followed by effusion of blood into the kidney and by albuminuria.

It is not impossible that albuminuria from central nervous lesion may be more common than is generally supposed, and it is at least well to remember such possibility. Unfortunately the case of Prof. Laschkewitsch passed from under his observation, and there was no opportunity of verifying the diagnosis. It is not unusual in Bright's disease to find anasarca more marked on one half of the body, but this is generally explainable on mechanical grounds, and we know of no better explanation in the instance quoted than that of the reporter.

GLYCERITE OF IODOFORM IN COLD ABSCESSES.

Among the knotty problems of surgical therapeutics is the management of cold, chronic, or scrofulous abscesses, especially those of osteopathic origin. Even at the present day, not a few surgeons adhere to the tradition of leaving such collections unopened until they are on the point of bursting, and it need scarcely be added that the advocates of this exploded conservatism have no faith in antiseptic precautions. Unless we greatly mistake, the recognized procedure with modern surgeons is to open abscesses dependent upon carious bone by an early, free, and dependent incision, wash out the cavity with a germicidal agent, and provide for adequate drainage.

The aseptic incision and drainage of cold abscesses are, however, impracticable in walking cases, as the patient who relies upon himself or others, not surgeons or skilled nurses, to apply the dressings, is constantly exposed to the dangers arising from the putrefaction of the discharge. Hence, the plan of managing such purulent collections by the injection of an emulsion of iodoform, to which attention was first directed by Mikulicz in the *Berliner klinischer Wochenschrift*, No. 49, 1881, and the good results of which are recorded by Fränkel in the *Wiener medizinischer Wochenschrift*, Nos. 26, 27, and 28, 1884, is entitled to extended trial.

Of the twenty cases observed by Fränkel in Billroth's clinic, of which fifteen were dependent upon caries of the bones, principally of the ribs and vertebræ, eighteen were complete successes. Twelve were walking cases, of which ten were cured, but in none of these were the vertebræ involved. The emulsion used consisted of ten grammes of iodoform to one hundred grammes of glycerine, of which thirty grammes, containing about forty grains of iodoform, constituted the average injection, and, as a rule, only one application was necessary. In the most favorable cases, which were not common, there were no signs of reaction, and the wall of the cavity shrank in from two to three weeks, without the patient being confined to his bed for a single day. When the skin was on the point of bursting, a fistule formed at the site of the puncture, which delayed the recovery; but the discharge, which was tolerably clear serum mixed with the remedy, was not profuse. In another class of cases, at the end of a month there appeared to have been no diminution in the size of the swelling; and in still another group, without there having been any very appreciable change in the volume, the less distinct fluctuation and greater firmness to the touch indicated that the shrinkage of the membrane surrounding the pus was slowly going on. In both of these classes another injection sufficed, as a rule, to effect a cure.

The operation itself is conducted with the largest canula of Dieulafoy's apparatus, through which the pus is evacuated and the emulsion injected. The small wound is covered with iodoform gauze, and gentle compression is made with a roller.

As an illustration of the good effects of the emulsion in affording permanent relief, we may refer to the case of a woman forty years of age, in whom a large swelling in the right iliac region and below Poupart's ligament was symptomatic of caries of the body of a lumbar vertebra. Upwards of a quart of pus having been evacuated, one hundred grammes of the mixture, containing one hundred and fifty grains of iodoform, were thrown into the sac. In a few hours the physiological effects of the remedy were very apparent, but they disappeared in twenty-four hours. At the expiration of a month, the patient in the meanwhile having been confined to her bed, and the abscess being firmer, although little diminished, ninety grammes, or about three ounces of the emulsion, were injected, and there was no reaction. At the expiration of another month, the abscess in the interval having diminished considerably and become more firm, the operation was repeated, and the patient was discharged at the end of three months from the commencement of the treatment. When seen, nearly three years subsequently, she was perfectly well.

INDUSTRIAL DISEASES.

THE accidents and diseases incident to the many and varied industries which have arisen in connection with our progress in art, in science, and in luxury, form a very important class of the ailments occurring in all manufacturing places, and call for notice, particularly in relation to the adoption of special precautionary measures. Richardson, in his late treatise on the "Field of Disease," devotes considerable space to the exposition of this subject. In fact, in all recent standard works on preventive medicine industrial diseases receive the consideration which their growing importance demands. Yet there is room for, and need of, a wide discussion of the subject with a view to the enlightenment of the people, and of securing their coöperation to the end that the proper remedial measures shall be provided for averting, or reducing to a minimum, the dangers to which a large class of the population is exposed.

In this connection, attention may be profitably directed to an instructive paper by DR. BRISTOWE, on the diseases due to poisonous and other influences incidental to certain occupations, which was read at a recent conference held at the International Health Exhibition. As medical officer of health and physician to a large hospital, Dr. Bristowe has enjoyed unusual facilities for studying this class of diseases, and his paper presents facts well attested by a ripe experience. The subjects specially referred to are chronic poisoning from lead, copper, arsenic, mercury, and phosphorus, the effects of irritants applied to the skin and to the lungs, phthisis in connection with sedentary work and defective ventilation, and the spread of infectious diseases in connection with certain industries. The ways in which these dangers are produced, and the rules to practise in order to avoid them, or at least to minimize them, are all carefully pointed out.

It would seem to be the duty of the intelligent and conscientious employer to possess himself of such information as Dr. Bristowe has furnished, and to make use of it in protecting the health of those engaged in his service. In addition to the obligation to warn those in his employ of the dangers to which they are exposed and instruct them in the use of the proper protective measures, there is a pecuniary interest in maintaining the health of skilled workmen at the highest possible standard.

The services of State and local boards of health might be turned to useful account by furnishing instruction in the precautionary measures which should be employed in all trades and occupations dangerous to health. Such information would be of incalculable advantage both to the employer and employé. A step further, and perhaps the most judicious and satisfactory treatment of the question, would be to invoke legislative aid in procuring wise laws upon the sanitation of factories and workshops and the methods to prevent the ill-effects of carrying on injurious and noxious trades. Legislation of this character is comparatively limited in this country, but in England the safeguards thrown around the health of the workers by legislative enactments have been gradually introduced, until at last they relate to every industry, great or small. This is as it should be. It is the duty of the State to help those who cannot help themselves, and to interfere for the protection of the health of the people where no other interference will be permitted.

As appertaining to the subject above considered, it may be useful to refer to a recent work by Lakeman on "Health in the Workshop," which furnishes a history of factory legislation in England and the results "from the time when George III. was king to the year of grace 1883."

WE have received from E. H. Schroeder, of Berlin, beautiful lithographic copies of Rembrandt's well-known painting of Tulpius's Anatomy Lesson—one of the masterpieces of the Dutch school—and of Hamman's Vesalius at his Dissections. The striking features of the original are faithfully reproduced, and the admirable execution of these plates renders them desirable adornments for the walls of the consulting room, while their low price (about $1.50 apiece) places them within the reach of all.

REVIEWS.

Première Application à Paris en 1883 de l'Assainissement suivant le Système Waring. Par **Ernest Pontzen**, Ingénieur Civil. 8vo., pp. 23, avec Planches. Paris: Baudry et Cie, 1884.

By an order of October 25, 1882, the Prefect of the Seine instituted a Commission to inquire into the means of improving the sanitary condition of Paris. Among other things, the improvement of the sewerage of the city was considered, and various systems were examined. Col. Waring was offered an opportunity of explaining his modification of the separate system of sewerage, and the result was a determination to make a trial of it in the quarter "du Marais," a part of the city presenting a combination of unfavorable conditions. The work has been completed, and its description forms the subject of Mr. Pontzen's pamphlet. After describing briefly the various plans for the removal of fecal matter, which have been in use at different times in Paris, all of which permitted all or a part of the material to remain for an indefinite length of time upon the premises and were therefore unsatisfactory, Mr. Pontzen is brought to the consideration of the question of the immediate discharge of excreta and household waters by means of properly constructed sewers. There does not seem to have been any difference of opinion among the Commission as to the incontestable advantages of this principle, but there was a doubt in regard to the best system or combination of systems to adopt to meet the variety of conditions which this city presents. Under the circumstances, Col. Waring was invited to make a test of his system.

The sanitary condition of the Marais quarter, a very populous part of the city, is said to be deplorable. The ground is flat and was formerly water-logged. The sewers are old and unsatisfactory. They are poorly ventilated, and have but slight inclinations, and, as the water-supply of the district is insufficient, frequent cleansings are required to keep them free from obstructions. The fecal matter and household waters discharged into the sewers make them intolerably offensive. To Col. Waring was assigned the work of constructing an auxiliary system of small pipes to intercept excreta and household wastes, similar to the system adopted at Memphis, subject, of course, to modifications in details to meet the different conditions encountered in Paris. These pipes were, for the most part, carried inside the sewers to avoid tearing up the streets. Mr. Pontzen speaks in very flattering terms of the results of this work after a trial of five months, and states that they have largely influenced the Municipal Council in deciding that, in the preliminary official inquiry about to be made before definitely deciding as to the method of sewerage for Paris, the removal of household wastes by the separate system shall be taken into consideration. This is a most sensible conclusion, and is based upon the knowledge of the fact that no one system of sewerage is exclusively applicable to all places, nor always to the same place. A combination of plans may often be productive of the very best results, especially where reconstruction is deemed advisable, and this seems to be the conclusion to which the municipality of Paris is tending.

Col. Waring is to be congratulated upon the result of his initiatory work in Paris, which, according to Mr. Pontzen, has been "a complete success."

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, October 14, 1884.

The President, Robert F. Weir, M.D., in the Chair.

Dr. L. A. Stimson presented a patient upon whom he had performed

EXSECTION OF THE KNEE-JOINT,

with an excellent result as regards form and function of the limb. The patient was a man forty-five years of age, who entered Bellevue Hospital in April, 1884, complaining of the consequences of a suppurative arthritis with which he had been affected seven or eight years previously, the result of an unknown cause. Multiple incisions had been made on the front of the thigh just above the knee through which pus had been evacuated. When the patient entered the hospital the joint was somewhat "springy," and whenever he made use of the limb for a day, or even for an hour or two, it would become so painful that he would be obliged to lie up for days, and sometimes for weeks. The patella was immovable; the joint, as already stated, fixed but somewhat springy. Looking upon the condition as that of false or partial ankylosis, the operation of excision was proposed, and was performed on the 21st of April by making a straight incision across the front of the joint as nearly as possible at the level of the articulation, with a liberating incision on each side at the two ends of the transverse incision. After cutting through the soft parts the knee was firmly flexed and the joint broken open, after which the pieces of bone were excised. That from the femur was about an inch in its greatest thickness, that from the tibia very thin. A second thin slice was removed from the femur to make the adjustment of the limb more accurate. The bones were then wired together on each side, and the incision closed with a continuous catgut suture. Two short drainage-tubes were then inserted. Bichloride solution was used during the operation. The dressing consisted of iodoformed gauze, and was changed on the following day, being saturated with blood. The limb was suspended in a posterior wire gutter in such a way that separation of the cut surfaces by sagging downwards of the thigh and pelvis, was avoided. The dressing was again changed on the 8th of May, a little more than two weeks after the first change was made, and the tubes were withdrawn. The wounds were found to be healed except at the points of entrance of the drainage-tubes. The dressing was changed again on the 20th of May, the wires removed, and the limb put up in a plaster-of-Paris splint. It could now be observed that the direction of the limb was apparently perfect. There is no angular deviation, no rotation of the thigh outwards, or turning of the foot inwards, and the limp is not very marked.

In reply to a question, Dr. Stimson said there had been complete destruction of the articular cartilages with roughening and partial union of the surfaces of bone.

THE PRESIDENT inquired whether any difficulty was experienced in extracting the wires.

DR. STIMSON replied that there had been none.

THE PRESIDENT said that he had seen square nails employed for fixing the adjoining extremities of the femur and tibia, in a number of instances, both in this country and abroad, and so far as he had been able to observe they worked admirably. The nails were extracted at the end of the third or fourth week and without difficulty. He had seen a good deal of trouble attend the removal of wires. He asked Dr. McBurney what methods he had employed for fixing the ends of the two bones together.

DR. MCBURNEY replied that in the first cases which he operated upon he employed wires, but he had sometimes experienced a good deal of difficulty in extracting them, and in some cases had to etherize the patient. In the last three cases in which he had operated he had tried to secure coaptation without the use of either wire or nails, and though it was too early to report on the result in these cases, he believed that they would do well.

DR. LANGE remarked that his experience with nails had been satisfactory.

DR. STIMSON had reported one case to the Society in which no wires had been employed, but the result was very unsatisfactory, the foot turning inwards to a marked degree. The result was anticipated during recovery because it was impossible to keep the patient straight in bed.

DR. POORE had frequently had difficulty in removing the wires, and in one case left them in without any mishap.

DR. POST once broke a wire off in attempting to remove it in a case of ununited fracture of the radius, and the piece which remained in the bone caused the patient but very little trouble.

DR. L. A. STIMSON then read a paper entitled

AN INQUIRY INTO THE ORIGIN AND USE OF THE LIGATURE IN THE TREATMENT OF ANEURISM.

(See page 479.)

VASCULAR TUMOR OF THE LIP REMOVED WITHOUT HEMORRHAGE BY THE USE OF A CLAMP.

DR. POST presented a small specimen which was of interest with reference to the manner in which it was removed. It was a bleeding fungus about 12 mm. in length, 9 mm. in breadth, and 7 mm. in thickness, which grew from the posterior mucous surface of the upper lip near the median line. He removed it without a medical assistant, hemorrhage being prevented by the use of a large elliptical clamp upon the lip. The first suture was passed while the clamp was in position, but was not tightened until after the clamp had been removed. But a few drops of blood were lost. The growth had not yet been examined with the microscope, but it was not believed to be malignant.

RECURRING CARCINOMA OF THE ARM; CAPILLARY DRAINAGE.

DR. MARKOE presented an arm, the seat of secondary cancer. It was removed from a lady past middle-life eighteen months after the removal of the breast, which had been done by a physician in Burlington, Vermont. The tumor of the breast was probably carcinomatous. The patient remained well after amputation of the breast for about a year, and then began to complain of a great deal of pain in the left humerus. There was not any special tumor of the humerus at any time, but there was increasing tenderness, and after the lapse of a few weeks the bone became flexible and could be bent at almost a right angle. The patient came to the city and Dr. Markoe removed the arm at the shoulder-joint by the ordinary operation, making a long deltoid and rather a short axillary flap. The healing of the wound was rapid and extremely satisfactory.

The bone was found to be flexile, due to a series of breaks at various points. Just below the neck was a distinct fracture which had been appreciated before the operation.

Dr. Ferguson had made the following report upon the specimen:

"The soft parts being partially removed, the left humerus is seen extensively involved by a new formation. There are two false points of motion—one just below the insertion of the deltoid, and another in the surgical neck. Tumor-tissue is seen distinctly in these locations at the expense of the bone. The muscles covering the front of the arm were in part invaded by the tumor, which, in its invasion of healthy tissues, followed the planes of the fibrous tissue between the muscle bundles. Microscopically it is a typical carcinoma."

Dr. Markoe said that he had presented this case more especially to have opportunity to say a word about a method of managing surgical wounds which had given him great satisfaction, and which he believed had not been so extensively recognized as it deserved to be. Surgeons had for years used capillary drainage in the shape of horse-hair, and in the olden times silk, and more recently in the shape of catgut leash; yet he believed that very few surgeons had much confidence in the method for large wounds, it having been used commonly for small wounds, and particularly for wounds of the scalp—a single thread or two of catgut being placed in the wound as a drain, the wounds thus treated doing extremely well. But a good many surgeons abroad, and some here, had used the method in the treatment of larger wounds, and had found it satisfactory. He had himself felt that the method had certain advantages which were worthy of attention. In the first place, it exerted a positive force in draining out from the cavity of the wound any fluids which might be retained there. If the drain were in a dependent position, the capillary force exerted by the leash would be almost as powerful as that of a siphon. The moment it was applied it would be seen that drainage commenced, taking place along the sides and between the strands of catgut. The other features of the dressing, perhaps, presented nothing unusual. Careful apposition being very important, iodoform and bichloride gauze with borated cotton externally completed the dressing. Dr. Markoe then related some cases showing the advantages possessed by this form of drainage.

On June 18th he extirpated a recurrent tumor of the breast which had been removed about a year before. The axillary glands were very extensively involved and necessitated free evacuation of this region—so free that the sterno-clavicular articulation was felt with the finger during the operation. The wound was a very large one, and was drained by two capillary drains, each composed of six or eight strands tied in the middle, the knot being then thrust into the deeper part of the wound. The doubled leash of threads projected from the wound about an inch; one of these drains was placed in the lower and the other at the upper angle of the wound. The wound was brought together with catgut stitches, dressed with iodoform and bichloride gauze, and covered over with cotton. The dressing was left on fourteen days, at the end of which time the wound was found to be perfectly healed from end to end. The finger passed over the line of union rubbed away the projecting strands of the drains and the unburied parts of the suture. Not a drop of pus had formed, and the wound was so absolutely and soundly healed that no further dressing was applied.

On September 23d he operated in another case for relapsing cancer of the breast, making a smaller wound, not opening the axilla, and applying the same kind of dressing. On the ninth day the wound was found to have healed perfectly.

September 24th he removed a cancerous breast of moderate size in which a few of the axillary glands were involved, necessitating a wide incision for their complete removal. The capillary drainage was inserted, and on October 9th, the fifteenth day, when the dressing was removed for the first time, the wound was found to be completely healed without any formation of pus. On the 25th of September he removed at the shoulder-joint the arm which had been shown to-night. Two catgut drains were used with the usual dressing. The gentleman under whose care the patient was removed the dressing a little early—only thirteen days after the operation. In that case the wound was found to have healed perfectly, except a little strip at one angle at which there had not been perfect coaptation of the flaps. The wound, however, was very superficial, and doubtless would heal under another dressing.

On October 12th he performed another breast amputation, applying a similar dressing, and the wound had now completely healed, except at one point at which a clot of blood had rested between the lips of the wound.

Dr. Markoe had made these statements because, so far as his experience with this method had extended, it had led him to have the greatest confidence in it, and, while he did not claim that it was applicable to all wounds, yet in those cases in which it was possible to obtain primary union he believed it to be better than any other form of drainage. The ordinary India-rubber drainage-tube certainly always left a fistula; Neuber's tube, while it often acted well, securing perfect healing of the wound, still left one point open, and sometimes acted as a foreign body.

Dr. Stimson inquired what kind of antiseptics were employed.

Dr. Markoe replied, the bichloride solution and iodoform to the wound surface. The drainage-tubes were prepared in the oil of juniper, after Kocher's method.

Dr. Little had had considerable experience with this form of drainage, applying the strands of catgut in the manner described by Dr. Markoe, and it had given entire satisfaction. He had not used it extensively in large wounds.

The President had used the capillary drainage, both as composed of hair and of catgut, and so long as the wound was fresh and the discharge serous the capillary action did well, but so soon as the secretions became thick it did not work; the strands became glued together and the capillary action ceased. He knew this also to have been the experience of many other surgeons. He had employed it in large wounds, as in breast amputations, and certainly had not been as well satisfied with it as with the rubber or bone drain. He wished here to state, but not too positively, that he had some doubts even in regard to the bone drainage-tube. In one case recently in which the bone drainage-tube was employed a septic condition developed, and he was strongly of the impression that it was due to the absorption of the softened bone. This was not a single instance, and from such cures he had learned to place more reliance upon the rubber drainage-tube than upon any other, although he recognized its great disadvantage in having to be removed in from four to seven days after the operation. But by this time the risk of inflammatory reaction had pretty well passed. At any rate he had not found any material risk to the patient to change the dressing at that time and put on the permanent one.

Dr. Markoe said his object was to secure union without any suppuration, and if the catgut drainage did not prevent it we were still in the same position as we would be had the rubber tube been employed, and the permanent dressing might be applied in the same way. But he believed that the capillary drain gave a much better chance for primary union, and it was very desirable, if possible, to secure that result.

Dr. Halsted thought that it would be difficult, in a given case, to know to just what to attribute a bad result with the imperfect antiseptic technique at present existing even in the best New York hospitals. Trained nurses with long sleeves and hands uninspected are allowed to pass and hold dry sponges.

He had repeatedly observed ligatures handed to the operator from the mouth of the interne; and seldom failed to find instruments, especially artery clamps, which were insufficiently clean. Dr. Halsted observed further that, in some of the hospitals, the preparation of the catgut was entrusted to the apothecary, and, even if prepared by the interne, it would not be a guarantee that it was properly, even if conscientiously, done.

The President said that we all recognized there were numerous sources of septic infection, and to these he had directed especial attention in a paper read last year. He now only spoke of the possible risk of infection from the bone drain because it was subject to animal decomposition. The early ones kept in carbolized oil, softened notably in a few months—sustaining the view of the non-aseptic condition of the oil. Lately the bone drains are kept in alcohol pure or mixed with bichloride of mercury. Such are harder and last longer.

Dr. Sands thought the cases reported by Dr. Markoe afforded a striking illustration of the advantages of a dressing which offers no obstacle to union by first intention. He believed that had rubber drains been employed, the excellent results reported could not have been obtained. There certainly would have remained, for a time, a granulating, if not a suppurating space along the course of the drainage-tube. He should say that if it was probable that a wound would heal only by granulation it would be desirable to use a rubber drain. But if the case was one in which primary union might be anticipated, a soluble drain would be preferable. He did not feel quite certain as to the capillary action of the catgut drain. According to his experience, after it had been in place a short time it became quite soft, the separate strands became agglutinated to one another, and capillary action was diminished or arrested. Regarding the comparative value of this and the decalcified bone drainage-tube, he doubted whether the former possessed any superiority. He had obtained absolutely perfect primary union in amputation of the breast in a number of cases in which he had employed the decalcified bone drain. He did not believe, however, that union without suppuration could be accomplished unless great pains were taken to secure perfect coaptation, and not only of the edges, but also of the deeper surfaces of the wound. He should not expect to get union with any form of drainage, however perfect, if the surfaces of the wound were not in perfect contact.

DR. LITTLE had operated in a case for cancer of the breast on Saturday morning, four days previously, and this morning, the temperature being markedly elevated, he removed the dressing, and found that the drainage had been imperfect, due to the fact that the bone drainage-tube had collapsed and become occluded. He had known this accident to occur in several cases after the use of the bone drain. He inquired of the President whether the preparation of the tube had anything to do with its remaining patent.

THE PRESIDENT had found that tubes prepared after the manner recommended by Neuber, in carbolized oil, were fragile, and a needle passed through the end of them would cause them to split, and by the third or fourth day they would sometimes be found collapsed, and would fail to act as drains. If kept in glycerine and alcohol after Kocher's method, they would not split, and were more readily soluble; the ends would be found pretty much absorbed within three or four days. If put in bichloride solution and alcohol, they lasted as long as from five to seven days.

DR. SANDS said that the bone drainage-tubes which he employed were prepared according to a method suggested by the apothecary of the Roosevelt Hospital. The oil was extracted by means of chloroform, and the tubes were afterwards kept in alcohol. They were firm, and did not collapse as readily as when preserved in carbolized oil.

TWO DRAINAGE-TUBES IN THE PLEURAL CAVITY EIGHTEEN MONTHS.

DR. LITTLE presented two rubber drainage-tubes, ⅜ inch in diameter—one 11½ inches and the other 9 inches in length—which he had removed from the pleural cavity of a man the day before. The patient was thirty years of age, and was operated upon in April, 1883, by Dr. Burchard, for empyema upon the left side. An incision about two inches in length was made through the eighth intercostal space, and eleven quarts of pus were evacuated. The drainage-tubes were then introduced and the extremities made fast by ligatures fastened to strips of adhesive plaster. The next day it was found that the adhesive plaster had become softened by the discharges, and the tubes had disappeared. The surgeon in attendance searched for nearly two hours without finding them. A consultation was held the next day, and it was decided that, as the patient was doing well, and the cavity was so large, it was best not to make further search until the cavity had contracted. Two months afterward the patient passed from under the doctor's care. When he presented himself to Dr. Little, eighteen months after the first operation, the daily discharge of pus from the wound was seven or eight ounces. On introducing the probe it came in contact with a tube. About an inch of the ninth rib was excised, and the drainage-tubes were removed with the forceps without much difficulty. The question naturally arose, What was the best way to fix the tubes? Dr. Little had been of the impression that it consisted in passing a safety-pin through the end of the tube, but at the operation in this case a physician told him he had once had the pin cut through and the tube fall into the pleural cavity. Fortunately, however, he was able to pick it out with the forceps.

DR. MARKOE remarked that the system of through drainage which he employed offered a certain amount of security against the tube escaping into the pleural cavity. At any rate, the accident had never occurred in any of his cases.

In reply to a question of the President, DR. STIMSON said he had once occasion to remove a drainage-tube about one inch long from the pleural cavity, into which it had slipped after the breaking of the string by which it was secured. He removed a portion of one rib and seized the tube with a long forceps.

DR. LITTLE referred to the manner of avoiding hemorrhage from the intercostal artery in this operation by adopting the procedure recommended by Dr. Abbe. He exposed the rib and cut it away with the bone forceps. He then passed a double ligature with an aneurismal needle behind the rib, including the vessel, and periosteum and pleura, and tied in two places and cut between, thus avoiding all hemorrhage.

DR. HALSTED had been surprised to see how little the intercostal arteries bled in cases of empyema of long duration. He had, within a few months, performed two extensive thoracoplastic operations. In the one case large portions of six, and in the other of eight, ribs were removed, as well as the subjacent parietal pleura; and, to the best of his recollection, he found it necessary to ligate but one intercostal artery.

DR. MARKOE did not believe the costal artery was wounded in this operation, but thought it was pushed aside and left in contact with the pleura.

THE PRESIDENT referred to a case in which the drainage-tube escaped into the pleural cavity, and he was enabled to remove it by enlarging the original incision.

DR. SANDS had been enabled to avoid escape of the drainage-tube into the pleural cavity by making use of a tube with a flange, like the ordinary tracheotomy-tube. The short tube fulfilled all indications and could be used without danger.

DR. LITTLE said it had been suggested to divide the end of the tube into slips; then sew on strips of rubber cloth and tie around the body, as directed by Dr. Pilcher in his work on *The Treatment of Wounds.*

DR. BRIDDON believed the tube entered the cavity by the act of inspiration. Fränkel had recommended a metallic tube with a flange, but longer than the one employed by Dr. Sands. A double tube had been recommended—one for pumping in liquid, the other to allow it to escape.

HYSTERECTOMY FOR MULTIPLE FIBROMATA.

DR. STIMSON presented the uterus with its appendages which he had removed by an abdominal section from a woman forty-five years of age for multiple fibromata. The mass, which was about six inches in diameter, was raised, the cervix transfixed by an ivory pin carrying a double elastic ligature, and each ligature was made to embrace half of the cervix and the corresponding broad ligament. The mass was then cut off above. There was no hemorrhage. The pedicle was treated by the extraperitoneal method. The patient made a good recovery. Dr. Stimson had done a similar operation in a case reported to the Society at its last meeting in May of this year, the patient making a good recovery.

DR. LANGE said that he had taken the precaution, before applying the elastic ligature to the pedicle, to constrict the parts with the écraseur, lest the ligature might fail to compress the thick mass sufficiently to prevent hemorrhage. He had always adopted the intraperitoneal method of treating the pedicle, securing the ligature with a lead ring, cutting the tumor off immediately above it, and he had not found any trouble from the presence of the clamp or ligature in the abdominal cavity. Only a few days ago he had removed the uterus for a large myoma after this method in a case in which he had originally intended to do simply Tait's operation on account of the low condition of the patient. But, being unable to get at the second ovary, he removed the whole mass, and the patient was now doing very well.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, October 20, 1884.

THE PRESIDENT, WM. DETMOLD, M.D., IN THE CHAIR.

DR. AUSTIN FLINT, SR., read a paper on

THE PARASITIC DOCTRINE OF EPIDEMIC CHOLERA

What, he asked in commencing, was the present *status* of the question as regards actual knowledge? Was it proved that cholera was due to a particular microorganism, and was hence a parasitic disease? In order to form an opinion concerning the matter, it was not necessary to have personally verified the evidence that the microscope afforded. This claim, like many in courts of law, was to be substantiated or rejected on the testimony of competent judges, such as alone could arrive at any sound conclusions. In this country, fortunately, no opportunity had been afforded for searching for cholera germs, and, even if there had been, there were but few observers sufficiently skilled to carry on the investigation intelligently. When in London during the past summer, Dr. Flint had had an opportunity of seeing in the biological department of the health exhibition a specimen of the so-called cholera bacillus which had been prepared by Koch himself.

He then went on to inquire what the status of the subject was, irrespective of the many facts still open to dispute. It was now believed to be logically certain that each of the various infectious diseases was due to a distinct specific causative agent of some kind; and it was altogether probable that this was a living organism. This class of diseases had been called zymotic by Dr. Farr a number of years ago; the word zymotic signifying fermentation. In such affections, it had been long suspected that there was a morbific agent of the nature of a ferment, and the investigations of Pasteur had shown that this ferment was a microörganism; thus affording a confirmation of the prevailing hypothesis in regard to the matter. It was remarkable that this view had been set forth nearly half a century ago by a distinguished American physician, Dr. J. K. Mitchell, in an essay entitled, "The cryptogamic origin of disease," which at the time and for many years afterwards was regarded as visionary and romantic, rather than as possessed of any real scientific value.

At the present time there was no room for doubt that in several of the infectious diseases a distinct and special microörganism had been discovered; and if this could be indubitably substantiated in the case of a single one of them, was it not fair to reason by analogy that we are warranted in supposing that it was true of all—each one having its own peculiar germ? In regard to the etiology of epidemic cholera, our knowledge had been materially increased during the past four months. In 1883 Koch had been sent out to Egypt by the German Government to investigate this subject. Subsequently he had gone to Calcutta for the same purpose, and during the recent outbreak at Toulon had continued his investigations there. The results of his labors were embodied in a series of reports to his government, and on the 26th of July last he had given a summary of them at the medical conference in Berlin, at which Virchow presided. This summary Dr. Flint repeated in outline, briefly describing the so-called comma-bacillus (which, on account of its sometimes assuming a corkscrew shape, Koch was inclined to class not with bacilli, but as either a transitional form of organism between the bacillus and the spirillum, or possibly a true spirillum), its characteristics, its location in the intestinal walls, and its successful culture outside of the body. That the comma-bacillus was a veritable organism could not be doubted from the fact that it could be thus cultivated. Koch's conclusion was, that the comma-bacilli are the essential cause of cholera.

On what grounds did he base this conclusion? *First*, that these bacteria were present in all well-marked cases of cholera. His investigations had extended over a hundred cases, and he had not failed to find the comma-bacillus in a single one. The French Cholera Commission, consisting of Messieurs Strauss, Roux, and Nocard, which had been sent out to Egypt in 1883, had met with a somewhat different experience. They had examined the small intestines of twenty-four cholera patients for these microörganisms, and had found them in greater or less abundance in all but three. In these three only a very few were found, although they stated that the investigations were made with great care. From the small number of the bacteria found in these few cases, the Commission reported that they did not feel authorized in attributing the disease to this agency. It was possible, however, that there might have been some fallacy in their experiments, and it was, at all events, true that these gentlemen were not acquainted with the technique employed by Koch. Still, he thought that other observations were required before the latter's position could be accepted as absolutely substantiated.

Second, that the comma-bacillus was not found in the healthy body, or in cases of disease other than epidemic cholera. The statement had been made by Strauss and others, that this bacterium had been seen in other conditions; but the character of the organisms had not been determined by the culture-test. Within a few days, and since the greater part of his paper had been written, Dr. Flint said he had seen in the *Lancet* for September 20th, a communication from Surgeon-Major Timothy R. Lewis, M.D., Assistant Professor of Pathology in the Army Medical School, in which he claimed that comma-like bacilli identical in size, form, and in their reaction with aniline dyes, with those found in choleraic dejecta, were *ordinarily* present in the mouth and fauces of perfectly healthy persons. He also made the statement that there was no difficulty in putting this assertion to an experimental test, and then proceeded to detail his method of making the microscopical examination, which, he said, was identical with that which he adopted for finding these bacteria in the dejections. It did not appear, however, that the culture-test had been applied in the case of the comma-like bacilli found in the saliva. At all events, the assertions of this investigator would soon be confirmed or refuted by other observers. Should Koch's position be established, that the comma-bacillus was present in every well-marked case of cholera, and that it was found only in such cases, it would be logically certain that there was some essential pathological connection between this microörganism and this disease; although this would not prove that it was a causative relation. Under these circumstances, the comma-bacillus might be either the cause or the effect of cholera. The one crucial test for its being the cause would be inoculation; which would afford absolute proof in the matter. Koch, however, had reported failure in securing this proof, and the French Commission had met with the same result in their experiments. In the same number of the *Lancet* in which Surgeon-Major Lewis's article appeared, was published an account of the experiments of two Swiss physicians, Rietsch and Nicati, made in the laboratory of the Pharo Hospital, at Marseilles, by instructions from the French Government. They had successfully inoculated a number of guinea-pigs, dogs, and rats with cholera microbes. The guinea-pigs all died at a minimum interval of forty hours, after symptoms of diarrhœa and cramp, the same as with human beings; while the dogs mostly died four days after inoculation. The guinea-pigs were much more susceptible to the disease than any other kind of animal. To make the inoculation more effective, they injected the choleraic secretions directly into the duodenum, as they had observed that the bile has the effect of checking the development of the microbe. The conclusion which they drew from these experiments was, that there was a practical mode of diagnosis in all doubtful cases of cholera, and that in such cases it would be sufficient to repeat with the contents of the patient's intestine the direct inoculation into the duodenum of a guinea-pig to ascertain, whether it was a case of cholera or not. The second conclusion which they drew was a prophylactic one, viz., that the gastric juice and the bile digest the microbes very thoroughly. These two juices are excreted in large quantities during the digestion which follows a meal; so that impure water would be less dangerous when taken with food than when drunk by itself. In the Philadelphia MEDICAL NEWS, for October 18th, was republished from the *Deutsche medicinische Wochenschrift*, of September 25th, a letter from Drs. Nicati and Rietsch to the *Semaine Médicale*, in which the same successful results in the inoculation of guinea-pigs and dogs were reported. Inoculation was the only means of proving that the comma-bacillus was really the cause of cholera, and the observations of the Swiss physicians would have to be confirmed by other experts before the fact could be considered an established one.

It was to be considered, however, that failure to secure successful inoculation by no means disproved the hypothesis that the microbe was the causative agent. It had been found impossible to produce either typhoid fever or leprosy in the lower animals, and, on the other hand, there were certain diseases peculiar to animals which apparently could not be communicated to man, such as the rinderpest and the contagious pleuro-pneumonia of cattle.

What, continued Dr. Flint, did the ascertained facts go to show? In the first place, reasoning by analogy, that all the infectious diseases were of parasitic origin. Between the comma-bacillus and other bacteria found in the intestines and dejecta of cholera patients, it was most probable that the former was the characteristic microbe of the disease. From the connection of this with certain lesions found in the intestines, again it seemed evident that it was either the cause or the result of these lesions. Now, epidemic cholera, except in India, was an exotic disease, and it was, therefore, vastly more probable that the lesions were the result of the comma-bacillus, than that the reverse of this should be true. Koch had shown that the life of this organism was a very brief one, and cholera was known to be a short disease, many of the so-called symptoms being in reality its sequels. He had also found that the bacilli were most abundant in the early stages of the disease, their number rapidly diminishing as time went on. Could the fact that the bacilli got into the system upon the appearance of the disease be established, it would afford proof as strong as that furnished by inoculation, of the causative relation between the microbe and cholera. While Koch was in India he had the opportunity of investigating a local outbreak of the disease, and he found that in the water-tanks of the locality in which it occurred there was an abundant supply of the comma-bacillus. Moreover, he ascertained that the disappearance of the microbe from the water was actually coincident with the subsidence of the epidemic. In neighboring places where the disease did not appear, no comma-bacilli whatever could be detected in the water-supply.

A proper sense of conservatism, however, should lead us not to accept the conclusions arrived at by Koch until they have been confirmed by the observation of so many competent judges that no reasonable doubt could be felt about the matter. That the verdict of scientific opinion would be in his favor, seemed at the present time altogether probable, and if this should prove to be the case, it would only be in accordance with the conjectures which many medical men had for some time entertained in regard to the true nature of the disease. In this connection Dr. Flint quoted the following passage from the article on epidemic cholera in the fifth edition of his work on the *Practice of Medicine*, 1880: "If the germ theory be adopted as affording the most rational explanation of the causation of other infectious diseases, this disease certainly comes within the range of its application. Adopting this theory, the disease requires for its production a specific germ or organism. Adopting the theory of indirect communicability, as just stated, germs are contained in choleraic excreta, but they require development under favorable conditions without the body in order to acquire infective power. Before reaching the required development, they are incapable of producing the disease. When the cholera germ has undergone the requisite development, it may be transported in the atmosphere, or carried from place to place, attached to clothing, merchandise, etc. It is also intelligible that undeveloped germs may in like manner be transported, and find in situations more or less distant from the places in which they are produced, the conditions favorable for their development."

It was not to be denied, he went on to say, that there were difficulties in reconciling Koch's view of the disease with certain facts in clinical experience, viz., those relating to the diffusion and transportation of the *contagium vivum*. If the cholera microbe were taken into the system with the ingesta, it would be difficult, in many instances, to explain the origin of cases occurring at a distance from each other. It was also hard to understand the immunity from infection which a large number of those exposed to it enjoyed, as well as its development in many cases in which this seemed highly improbable. In these respects, however, the disease was similar to tuberculosis.

The next point was, if the parasitic origin of the disease were established, what bearing would this have on the treatment? The question was certainly one of great practical importance, since at the present time we were liable to have an outbreak of cholera in this country at any moment. So far as known, there was no agent capable of destroying the parasite in the intestines which was not toxical to the human system; but it was to be hoped that one would eventually be discovered. Clinical experience, however, had shown that there was no disease which could be more readily controlled than this, if it were taken in time. Opium and complete rest were *par excellence* the remedies to be employed, and in any case promptly treated with these measures, the further development of the disease could be prevented with almost absolute certainty. He had had a pretty large experience in former epidemics of cholera in this country, and felt that he could speak with entire confidence on this point. What the *modus operandi* of the opium was in this affection he was not prepared to say; its unquestionable efficacy was one of those instances which were not rare in practical medicine, of a therapeutical truth which could not be satisfactorily explained in the present state of our knowledge.

Again, what connection had the parasitic origin with the prevention of the disease, which was a still more important point? It was probable, he thought, that the detection of the parasite in the dejecta of patients suffering from cholera would become possible before the disease had grown to be epidemic; and if this were so, it would enable us to distinguish cases of true cholera from those of cholerine, the differential diagnosis between which was sometimes a matter of great difficulty. An important preventive measure was to insure the complete destruction of the parasite directly it left the body; and if this could always be accomplished, it would render every case of cholera sterile. According to Koch's experiments, the cholera microbe was destroyed in the process of drying; but cold, while it rendered its infectious qualities less active, did not entirely destroy it. Articles of clothing or merchandise infected with cholera germs were to be disinfected or detained in quarantine for a sufficiently long time to render them inert. The local conditions under which the parasite would best thrive outside the body were not definitely understood as yet; but there could be no possible doubt that filth was very favorable to its development. Within the body, according to Koch, the acidity of the gastric fluids was inimical to the microbe. It seemed probable that in order to contract cholera the individnal should have a predisposition or susceptibility; but, as in the case of tuberculosis, our knowledge on this point was, as yet, very incomplete.

In connection with these remarks, Dr. Flint said that he wished to call attention to the admirable manner by means of which cholera epidemics were stamped out in the city of New York during the years 1866 and 1867, particularly as they seemed to afford a certain amount of practical evidence of the correctness of the parasitic theory of the disease. The Metropolitan Board of Health, under the direction of the late Dr. E. Barry Dalton, appointed special sanitary inspectors, whose duty it was to visit every case the moment it was reported; and at the same time there was maintained a disinfecting corps, composed of men who had all served in the army during the late war, who were kept constantly under the same discipline and state of readiness for action that the Fire Department now is. During 1866 there were three hundred and sixty-two cases, and so effective were the preventive measures adopted that in not one instance did the disease spread proximately beyond the house after the members of the corps had appeared upon the scene. In 1867 there were but very few cases and these were readily controlled. Dr. Flint expressed the opinion that never before or since in any country in the world were measures so successfully carried out for the prompt eradication of infectious disease. Such evidence was conclusive that cholera could be successfully stamped out, and it was his belief that if the same means had been adopted in the recent epidemics at Toulon, Marseilles, and Naples, the same results could have been achieved, and thousands of lives have been saved. He thought, therefore, that if cholera should visit this country, it would rest entirely with the health authorities whether the disease should become epidemic or not.

In conclusion, he said that this was a most important era in the history of medicine, on account of the brilliant discoveries that were now continually being made. Was the profession in this country to engage actively in the work of the scientific investigation of disease, or should it content itself with waiting patiently for the announcements of the results of the labors of medical men in Europe? The field was certainly ample, for there were many diseases which were probably of parasitic origin, in regard to the exact nature of which nothing was as yet definitely known. He could not believe, for a moment, that there was any lack of ability among the members of the profession in the United States, but it did seem to him that there was some lack of self-reliance and energy. It had to be granted, however, that there were difficulties in the way of such investigations existing here that did not exist in European countries, because the Government did not afford the same encouragements and facilities as was in the case in them. Since this was a fact, it was to be hoped that private liberality would take the place of governmental aid, and there was much ground for encouragement in the recent gift, by Mr. Andrew Carnegie, of $50,000 for a pathological laboratory at Bellevue, and by Mr. Vanderbilt of half a million dollars to the College of Physicians and Surgeons. One of the greatest benefits of such generosity, he thought, was that it tended to give private beneficence a direction toward the advancement of medical education and knowledge.

THE PRESIDENT thought it probable that the summer diarrhœa of infants, which was so prevalent here, probably stood in a similar relation to Asiatic cholera that ordinary catarrhal ophthalmia stood to Egyptian ophthalmia. Such a disease as simple ophthalmia readily became contagious under the favorable conditions that were met with in Egypt, such as the glare and dust, and was thence transmitted all over Europe. It would be interesting to know, he thought, whether the dejecta from individuals suffering from summer diarrhœa contained any microörganism similar to that found in the passages of cholera patients. In regard to the measures adopted during the epidemic of cholera in New York in 1866, he said that it was by his advice that the health authorities secured from the city the means of paying for all the soiled effects of cholera patients, which were burned. Before this was done, the poor would often secrete such effects, in order to prevent the destruction of their property, and by this means promote the further spread of the disease. At the next meeting of the Association, papers would be read upon the same subject by Drs. Janeway and Leale, and he thought it would perhaps be as well to postpone the discussion of Dr. Flint's paper until that occasion.

DR. JANEWAY remarked that, after the exhaustive manner in which Dr. Flint had treated the subject, there was very little to be said by any one who, like himself, was a believer in the parasitic origin of cholera. He would like to say a few words, however, in regard to the epidemic of 1866 as it was met with in the workhouse on Blackwell's Island. At that time four inmates were placed in each room, and they were not allowed to leave it during the night. In each room was a pail for the reception of urine and feces, and these pails were emptied into the river in the morning. At first there were a large number of fatal cases among the work-house people, among whom scurvy existed to some extent, and who were in bad condition generally. When, however, the pails had been excluded from the rooms, acid had been added to the food, cholera patients at once isolated, and disinfectants freely used, the disease very promptly disappeared. There was one point of interest, he thought, and that was, that if the spread of cholera depended on the infection of drinking water, the epidemic of 1866 in New York, and particularly on Blackwell's Island, was difficult to explain, since he could hardly see how the Croton water-supply could have become infected. It seemed probable to him, therefore, that the origin of the disease was not directly from drinking water, and that it was therefore unwise to hold the opinion that this was always the case, as was maintained by some authorities. In conclusion, he spoke of how important it was that the physician should promptly take every possible precaution in the way of isolation, disinfection, and reporting to the Board of Health every doubtful case of disease. By waiting until the true nature of the attack could be positively determined, valuable time was often lost, and the disease communicated to a large number of individuals who might otherwise have been spared the danger.

DR. LEALE spoke briefly of the effectiveness of the measures adopted by the Metropolitan Board of Health in the epidemic of 1866. He had personally seen a number of cases at this time, and in only one instance did the disease become epidemic. In this there were eighteen cases, with five deaths; but, after the locality had been visited by the disinfecting corps, and the whole neighborhood deluged with chlorine, there was not a single new case.

NEWS ITEMS.

ST. LOUIS.

(From our travelling Correspondent.)

THE MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION AT ST. LOUIS.—This week was a somewhat notable one for St. Louis in that it was the occasion for the meetings of the American Public Health Association and that of the National Conference of Charities and Correction. The prevention of disease has so much to do with the prevention of pauperism, insanity, and crime, that it was very natural for the members of those bodies, early in their sessions, to exchange greetings.

Such of the members of the Public Health Association as are connected with State Boards of Health held a preliminary conference, on Monday, for the purpose of considering the special duties and relations of health officers. Two papers were offered in regard to cholera, and the chief work of the Conference was the preparation of a report on preventive measures as to it, to be submitted to the Public Health Association.

The Association opened its session on Tuesday morning with a large representative attendance. *House Sanitation* was the first subject that engaged its attention.

Major Robinson, Inspector of Plumbing for the District of Columbia, treated of the *Hygiene of the Habitations of the Poor.* He carefully pointed out most of the evils of insanitary dwellings, and the modes of remedy. While not new, it was a valuable statement of details. A plan he suggested of conducting the underground water from houses in low spots into the sewer, and the value of asphalt pavements and sidewalks, for preventing the access of ground air, was admitted in the discussion as valuable to lessen dampness, but not as effective in keeping out ground air.

In a paper on the *Squalid Dwellings of the Poor*, Dr. Chancellor, of Maryland, severely reviewed present methods of oversight. He made a special point as to the tolerance of houses that were allowed only because of the illicit uses they were rented for, and at values out of all proportion to the capital represented.

In a paper on the *Sanitary Survey of a House*, Dr. Wm. K. Wenston, of Paterson, with excellent precision, outlined the duties of a competent sanitary inspector.

The *Hygiene of Occupations* was presented by Dr. Rohé, of Baltimore. He gathered most that is to be found on the subject. The debate suggested that statistics of occupation had been greatly modified by new methods of work, and by the fact that so many only pursued the same occupation for a small part of their lives.

Dr. Alt, of St. Louis, in a short paper, made some suggestions as to *Protective Spectacles for Workingmen*.

Surgeon Parker, of New Mexico, gave some facts as to the transportation of disease by cars, and the condition of railroad stations.

A paper on *Heating and Ventilation*, by Dr. Curtman, of St. Louis, instead of considering plenum and exhaust methods, was chiefly devoted to a discussion of the causes of imperfect combustion, and to the exhibit of this as a chief source of unwholesome air.

The discussion of these papers was participated in by Dr. Raymond, of Brooklyn; Dr. Thompson, of Kentucky; Dr. Hunt, of New Jersey; Dr. Bell, of New York, and several others. The Association is thus wisely securing the opinions of health officers, and, by the use of a stenographer, is able to make the discussions quite as valuable a part of its printed transactions as the papers read.

The evening was occupied with addresses of welcome, and that of the President, Surgeon A. L. Gihon, U. S. N. The address of Governor Crittenden was somewhat out of the ordinary line of welcome, in that it presented, with vigor and ability, the relation of the people to sanitary administration, and showed a knowledge of the subject creditable alike to his heart and to his statesmanship.

The address of Dr. Gihon was an able and practical enforcement of the need of sanitary intelligence. In a spirited and racy way he exposed the evils of public schools, the neglect of sanitary inspection, the mismanagement of cities (especially of Philadelphia), and portrayed the personal responsibility of heads of families for deaths in their households or among their neighbors. Parts of the address might well be committed to memory by the average city economist.

The report of the Committee on School Hygiene was by Prof. Sargent, of Harvard. He took the advanced views as to the necessity of such teaching in all schools and colleges as recognize this as a department, and claimed that there is a detail in the physical treatment of all the faculties needed to be taught and enforced by discipline. Other papers on school hygiene followed by Prof. Hartwell, of Baltimore; Dr. Richey, of Washington; Dr. Elder, of Indiana; and Dr. Formento, of New Orleans. Most of these papers had the fault that they declaimed too much against the evils attendant on school life without presenting complete plans for their abatement. It is evident, however, that sanitarians and others have come to feel that there must be improvement in school buildings and modes of instruction, and that pupils must be taught the practical physical relations they bear to their surroundings, as well as to the proper management of themselves, in order to prevent disease.

The division on *Adulteration of Foods* drew forth papers as follows: on "Cotton-seed Oil as a Food," by Prof. Monroe, of Annapolis; on "Glucose in its Sanitary Relations," by Prof. Brewer, of Yale; on "Poisonous Cheese," by Prof. Vaughan, of Ann Harbor; and on "The Milk Supply of Large Cities," by Dr. A. C. Morris, of Philadelphia. The paper of Prof. Vaughan gave the facts as to a hundred or more cases of sickness from a grade of cheese in Michigan, in which chemical tests showed an acid reaction and the absence of animalculæ. The conclusion of the paper was that cheese which gives an acid reaction to test-paper had better not be eaten. The paper of Prof. Morris recognized the great amount of milk-watering, and magnified the evil results. His proposed remedy is to have all milk bottled and sealed at the dairies, and each bottle to bear the stamp of its owner.

At the evening session of Wednesday, Hon. Erastus Brooks read a paper on *The Food we Eat, and the Adulterations to which we Submit.* It had all the vigor of style and earnestness of manner by which its author has heretofore so ably and effectively urged on the cause of sanitary reform. But it did not show that exact knowledge of the facts in evidence which alone can satisfy those now inquiring into the subject.

The paper on *The Hygiene of Sailors in the Coasting Trade, and especially of Chesapeake Oystermen*, by Surgeon Wyman, of the Marine-Hospital Service, had some good suggestions as to quarantine, but was too diffuse for such a meeting.

Several papers, like that on *Beer*, by Prof. Carmall, of Princeton, were, in the absence of their authors, referred without reading.

The cremationists had able and earnest advocates in a paper on *Cremation as a Safeguard against Epidemics*, by Rev. G. D. Buegless, U. S. N., and on *The Ultimate Sanitation by Fire*, by Hon. Wm. Keating, Editor of the Memphis *Appeal.* The Association saw fit to appoint a Special Committee further to consider the subject.

The Committee on the Management of Epidemics reported through its Chairman, Dr. Bell, of New York. It was chiefly valuable as giving in detail the methods pursued by local health officers in the midst of epidemics, so as to admit of comparisons of method.

Dr. Thornton, of Memphis, followed with a paper on *The Sanitary Management of the Mississippi Valley*, with especial reference to precautions against cholera. Surgeon Smart, of the Army, discussed, with earnestness, the inefficiency of chemical tests as determining the disease-bearing quality of water. Dr. Reeve's paper on *The Pollutions of the Upper Ohio*, was a vigorous protest against the use of such streams for promiscuous sewers. Dr. Baker, of Michigan, in a paper on *The Causes of Typhoid Fever*, went further than Pettenkoffer in associating it with the lowness of ground water. This causes the contents of closets to flow more into the wells, they thus becoming the chief springs, while the diminished dilution adds to the cases. The paper was accompanied with charts and well illustrated.

A paper on *The Manufacture of Soda Water from*

Polluted Well Water, led to some statements as to the evils of metal tanks and faucets from Dr. Raymond, of Brooklyn, which may well caution all those who use summer beverages thus supplied.

A series of papers on sewage occupied the close of the morning session. Those of Dr. Bell and Colonel Waring, of Newport, were read only by title. Dr. Henrich, of New Orleans, sought to show that the influence of underground sewage on diphtheria, typhoid fever, and diarrhœa had been overestimated.

Dr. Harris, of St. Louis, presented the plans of settling basins and chemical precipitation, in use at Tottenham, England, and urged that the plan should be adopted here. Its defect, however, is that it trusts to air-drying for the sludge, which, being bulky and containing over 90 per cent. of moisture, is not quickly reduced.

At the evening session, Surgeon Sternberg, of the Army, read a valuable paper on *Disease Germs*, illustrated by microphotographs thrown upon a screen. The most important part of the paper was its consideration of the morphology of the pathogenic flora, instancing their great variety of forms, and their modes of multiplication by fission, budding, etc. The varied forms of bacteria, bacilli, etc., were described, with suggestions as to the effect on the human system of changes or evolutions in their lives. Dr. Brewer, of St. Louis, followed in a paper on *The Bearing of the Discovery of the Bacillus Tuberculosis on Public Health;* he regarded it as of great importance in its bearing on the management of a most fatal class of diseases.

The session of Friday was chiefly given over to a series of papers discussing the local sanitary interests of St. Louis, the materials of which will be condensed for the annual *Transactions*. Interest was added to the meeting by the offer from one of the members, Henry Lomb, Esq., of Rochester, N. Y., of four prizes of five hundred dollars each, for essays on each of the following subjects: (1) Healthy Homes and Foods for the Working Classes, (2) The Sanitary Conditions and Necessities of School Houses and School Life, (3) Disinfectants and Individual Prophylaxis Against Infectious Diseases, (4) Appliances for Saving Life and for Protection against the Injurious Influences of some Employments on Health. Provisions were made by which the committee will be chosen, and efforts will be made to secure, by April next, papers and investigations worthy of so liberal an offer.

The very representative attendance from most of the States and the larger cities showed how fully the subjects before the Association concerned the attention and inquiry of the country. The valuable report on cholera, submitted to the Association by the conference of representatives from twenty-three State boards of health, was unanimously adopted.

The chief criticisms to be made on the papers offered or read is that the Executive Committee is not critical enough in its selections, and allows so much to be offered that is merely a repetition of what every sanitarian knows. Other papers containing matter of some value should be reduced one-half. Yet no one can attend these meetings without gaining much advantage. The Association recognizes that its time for popular talks and essays is about past, and that hereafter this work should be left more to local efforts. The membership is now as large as is needed for an effective working body, and we look to its future meetings to be still more productive than those that are past. Dr. Reeves, of West Virginia, is the President for the ensuing year, and the next meeting is to be held at Washington.

VIENNA.

(From our Special Correspondent.)

COCAINE.—There is no doubt about the fact that the medical virtues of erythroxylon coca are much better known and appreciated in America than in Europe. But recently, since E. Merck, in Darmstadt, has begun to prepare the alkaloid of that plant, and sell the easily soluble combination of cocaine with hydrochloric acid—though for a remarkably high price—some use has been made of cocaine, and some experience has been collected in Vienna about the interesting drug. Prof. Fleische and his colleagues here have seen the excellent effect of cocaine during the period of "abstinentia morphiæ." Persons used to large amounts of morphia for many years, could bear the privation of this alkaloid without suffering the well-known tortures which are usually connected with it. Even in cases in which the morphia was not withdrawn gradually, but stopped at once, cocaine showed the best effects.

But we do not propose to dwell on those effects of cocaine which are already known, but about a form of application which, so far as is known, is quite new. This application has been brought forth by Dr. Koller, in Vienna. Starting from the fact, that the parts of the tongue which were in direct contact with a strong solution of cocaine lose for a certain time their sensibility, he was led to try the application of cocaine to the cornea. If one or two drops of a concentrated solution of cocaine hydrochlorate in water, be applied for some minutes to the free surface of the eye, the sensitive nerves of the cornea and of the surrounding parts become paralyzed, there is a local anæsthesia, and the operations of extraction of cataract, of iridectomy, etc., can be performed without giving the patient any pain.

The great value of cocaine, as a means of inducing local anæsthesia in the eye, is evident.

There have been performed also some operations (here in Vienna) on the larynx, in which a complete local anæsthesia was effected by cocaine, but in that way it has been used previously, we are informed.

THE CHOLERA AT NAPLES.—We have given pretty full cholera reports from the United States consuls at Marseilles and Genoa, and herewith present extracts from the report of the consul at Naples, thus continuing the official record from these important cities, published exclusively by THE MEDICAL NEWS.

At the time of the cholera in Marseilles, there were in that city a number of Italians and Italian sailors. In the latter part of July about fifteen of these sailors left Marseilles for Naples. At the time they landed in Naples their presence was unknown to the municipal authorities. They took up their abode in the Strada de Parto, where, after passing one night, they were discovered, sent back to their ship, and left, as it was supposed, for Palermo. Their stay was sufficient, it is thought, to sow the germs of the disease in that portion of the city.

August 2, 1884, the first case of cholera was recorded in Naples, and the patient removed to the Conocchia Hospital, where he died. From that time the disease made gradual progress, of the course of which there was no *official* report, the fact of the existence of cases being published in a desultory way, no particular importance being attached to them seemingly. They were said to have been sporadic, and no fear was felt of their spreading so late in the season. There were others who thought the disease was smothered for the time being, to break out with renewed force in May, 1885, when they expected a gradual increase, followed by an outbreak similar to that of 1836–37.

The disease finally manifested itself in a decided manner on August 23d. The former indifference of the authorities was changed to the greatest activity and anxiety; the portion of the city most exposed to the fury of the disease was the Parto. It rapidly spread to the Mercato, Pendino, and Victoria, the former of which outstripped the Parto in the number of cases and deaths, and has maintained the foremost position during the epidemic.

The sanitary condition of Naples is considered good in some respects, but is not considered satisfactory when the outbreak of any disease is imminent, which may be intensified by bad drainage.

The larger portion of Naples is badly drained. The people of the lower classes are very uncleanly. When one goes beyond the limits of the wealthier section of the city, the contrast is shockingly manifested, the homes of the poor being wretched in the extreme.

The city of Naples is divided into twelve sections or districts, four of which, viz., the Mercato, Pendino, Victoria, and Parto, have suffered most from the epidemic. There were days, at first, when the better quarters of the city, the San Ferdinando and Chiaja, were free from it, and it was hoped these sections would escape; but, later, all sections of the city were infected. The exodus of the inhabitants from these latter named sections was very great, estimated at 50,000 or 60,000 persons at one time. Their paths lay north toward Rome, Bologna, and Florence; south toward Caluleria, Castellamare, Vico Equence, Meta, and Sorrento; and east toward Foggia. Those left in the city were of the poorer classes, tradespeople, those in government service, employés of private business houses, soldiers and marines, and the laboring classes. The battleground of the physicians was the four sections, Mercato, Parto, Pendino, and Victoria. The quarters are distinctly "old Naples," exactly as they were three hundred years ago—narrow streets, high, overhanging buildings, where the sun rarely penetrates in summer, and never in winter, containing a population of 350,000. The streets are damp and foul-smelling, without pavements, so narrow that small one-horse carriages (of Naples) cannot travel, and where foot passengers pass one another with difficulty. Some of the people dwell in cellar-like rooms, on a level with the street, and others many steps below. Thousands live here huddled together, ten or fifteen in a single room, without distinction of age or sex, and subsisting on the most miserable food. The air of these habitations is admitted by the door and a small hole in the wall.

On the 2d of September the municipal authorities began publishing official bulletins. The first, of cases and deaths from 4 P.M. to 2 A.M., the second, from 2 A.M. to 10 A.M., and the third, from 10 A.M. to 4 P.M. A list of fresh cases was thus given three times a day, also, a list of fresh deaths. On the 11th of September the highest point was reached, the bulletin for that day giving 949 fresh cases and 357 deaths. This was followed by 848 fresh cases, and 386 deaths on the 12th, 698 cases and 281 deaths on the 13th, from which date there has been a gradual decrease in both cases and deaths. On September 22d the cases had fallen to 305, and the deaths to 97 within a period of 24 hours.

At present there is every prospect that by October 15th, all serious apprehensions will be at an end, and that the city will once more be restored to its customary tranquility.

The sudden increase in cases and deaths on the 11th, 12th, and 13th of September was owing to three causes: first, the very chilly, stormy weather. The wind was very high and cool; the rain fell in torrents, and the people were totally unprepared for the sudden cold. Some of them were homeless; others lived in habitations already cold and damp, without warm clothing or covering. This class was stricken down by hundreds. Warm, sunshiny weather was prayed for, as the only hope of reducing the cases and deaths, but it was not until Monday, September 15th, that the weather cleared and the sun shone again. The second cause of increase was the feast of Piedigrotta, September 7th and 8th. Last year this bacchanalian fete was celebrated beyond the limits of reason in the unlimited consumption of indigestible food and fruit and poor wine. This year the authorities forbade the celebration, but it was found impossible to restrain the people entirely, and the result will be seen in the number of cases and deaths on September 11th, 12th, and 13th. The third cause of the rapid increase of cases and high death-rate was the fear of and animosity felt toward the physicians by the families of the patients, who believed they were being poisoned by the order of the government, already wearied of the large number of the poor in Naples, and the cases were either hidden until aid came too late, or, if discovered, the people resisted with force and violence.

In addition to this, it may be said that many cases were not reported until after death had ensued, before which time distribution had been made of the effects of the deceased and among his family and friends, a fruitful source of the propagation of the disease. It has been found impossible to obtain a present anything like a correct list of the number of cases and deaths from the commencement of the outbreak to the present time, but it may be estimated that over nine thousand persons have been attacked by the cholera in Naples, sixty per cent. of whom have died. It will not be until long after the cessation of the epidemic that we shall have anything like a correct estimate, and then in all probability the numbers will far exceed those given above.

The consul gives quite a full account of the "microbe" theory as understood by the Neapolitan physicans, together with the treatment pursued, which does not materially differ from that generally accepted by the followers of Koch. The consul says, "a disinfecting agent strongly recommended and in use here, is a solution of bichloride of mercury (1 in 1000), to be thrown upon the dejecta." THE MEDICAL NEWS gave this formula in an editorial published August 2, 1884, p. 127.

Considering the intensity of the epidemic in Naples, it seems remarkable that the adjacent towns have not suffered more severely, and especially as there has been no quarantine on the mainland, *i. e.*, between the provincial towns. Between Naples and Sorrento there are ten towns of considerable importance. They have all suffered in a greater or less degree, those most conspicuous being Sorre, Annunciato, San Giovanni a Seduccio, and Resina. Since the sudden increase of cases at Naples, a fumigation chamber has been established at Castellamare, at the railroad station, and also at the northern entrance to the town of Vico. The Consul says: "Having passed through these rooms, and having endured fumigation several times, I can speak from experience." At Castellamare, on the arrival of trains, all baggage is surrendered and left for fumigation on the outside, for two hours. The passengers are then hurried into two large rooms, in the corners of which are earthen dishes from which rise the fumes of chlorine. In the morning the fumes are strong, in the afternoon mild. After the lapse of several minutes the passengers are permitted to leave. At Capri, and the other islands in the bay, the Government ordered a quarantine of twenty-one days, which the Caprisi enforce for their Island at the muzzle of a gun.

The eyes of King Humbert and his Ministers have been opened, as they never were before, to the true state of affairs among the poor of Naples, and the result may be the opening out of new streets through the four sections into which the fresh air of the bay, and the purifying rays of the sun may enter freely; and a further result, a new system of drainage, not only for these sections, but for the remaining eight.

Doubts Concerning the Cholera Bacillus.—Dr. Koch admits the striking resemblance of the bacillus of cholera nostras, demonstrated by Finkler and Prior, to his preparations from Asiatic cholera, but reserves his final judgment concerning cultivation, etc. Thus far, says the *British Medical Journal* of October 18th, no definite opinion is given in Germany as to the full value of the statements of Finkler and Prior, and they themselves do not speak of a positive identity between their bacillus and that discovered by Koch.

A French Commission to Study Cholera in Italy.—The French Government has appointed Prof. Jules Aronnsohn as chief of a commission to study the cholera in Italy, in its etiological and therapeutic aspects.

The Investigation of the Cholera Bacillus.—The classes in the methods of investigation of the cholera bacillus have commenced work in the Berlin Health Office. They are conducted by Dr. Koch, are limited to twelve members, and the course lasts ten days.

Professor Hermann, of Zurich, has been transferred to the Chair of Physiology at Königsberg, succeeding Prof. von Wittich.

An Address to the King of Denmark.—The English, Irish, and Scotch members of the Copenhagen International Medical Congress have presented an address to the King of Denmark, in which they express their regret at the loss sustained by him in the burning of the Christiansborg palace, in which he so hospitably entertained the members of the Congress.

The University of Berlin has just received a legacy of $190,000, by the will of the late Countess Bose, of Cassel, for the benefit of poor students of medicine.

Tearing of the Dental Nerves in Persistent Neuralgia.—M. Monod has successfully treated two cases of obstinate dental neuralgia by tearing the extremity of the dental nerve. The first patient has remained perfectly free from pain during thirteen months. M. Monod trephined the ramus of the inferior maxilla by Warren's process; neuralgia reappeared at the end of six months, and was localized at the mental foramen. M. Monod then trephined the bone behind the mental foramen, adopting Jules Roux's process; the nerve was then torn, and the patient was rapidly cured. The second patient was treated in the same way, hitherto successful; but the operation is too recent to pronounce it a positive cure. Stretching the inferior dental nerve has been proved successful in one case only, by M. Mark Sée. Tearing the nerve has resulted in cure in thirteen cases. The same operation has been performed on the infraorbital nerve with satisfactory results.—*British Medical Journal*, September 20, 1884.

Death of Prof. Somma.—Prof. Luigi Somma, the well-known pædiatrist, and editor of the *Archivio di Patologia Infantile*, died in Naples, of cholera, on September 19th.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 21 TO OCTOBER 27, 1884.

Alden, Chas. H., *Major and Surgeon.*—Relieved from duty at Fort Yates, Dakota Territory, and ordered for duty at Fort Snelling, Minnesota.—*S. O. 125, Department of Dakota*, October 20, 1884.

Vickery, R. S., *Major and Surgeon.*—During temporary absence of Major J. C. McKee, Surgeon U. S. A., Medical Director of the Department—in addition to his other duties—will assume charge of the office of the Medical Director.—*S. O. 34, Headquarters Department of Colorado*, October 8, 1884.

Strong, Norton, *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Fort Union, New Mexico.—*S. O. 198, Department of Mexico*, October 4, 1884.

McCaw, Walter D., *First Lieutenant and Assistant Surgeon.*—Ordered from Fort Craig, New Mexico, to Fort Wingate, New Mexico, for duty.—*S. O. 92, Headquarters District of New Mexico*, October 21, 1884.

The Medical News *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the News *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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ORIGINAL LECTURES.

A COURSE OF LECTURES ON DERMATOLOGY.

Delivered at the University of Pennsylvania during the Session of 1883–1884.

BY LOUIS A. DUHRING, M.D.,
PROFESSOR OF DERMATOLOGY IN THE UNIVERSITY.

(Reported by Henry Wile, M.D.)

LECTURE VIII.

PARASITES.

THE diseases of the skin to which a parasitic origin is ascribed, are grouped together and form a well-known class. It is the only group of our classification that is based directly upon etiological facts. The effect of the development of parasitic organisms upon the human skin varies according to the nature of the parasite, whether vegetable or animal, the former thriving upon the superficial or epithelial elements of the skin, the latter upon the more vital and deeper structures. The vegetable parasites belong to the fungi, differing from the algæ in being devoid of chlorophyl, and being unable to assimilate inorganic matter. They are commonly known as "tineæ," and include several varieties, namely, *tinea favosa*, *tinea circinata*, *tinea tonsurans*, *tinea sycosis*, *tinea versicolor*. Parasitic diseases are most common in overcrowded communities, and are contagious in various degrees. They are local affections.

Tinea favosa is a contagious disease due to the vegetable parasite known as achorion Schönleinii, characterized by discrete or confluent pea-sized, cup-shaped, yellowish, friable crusts, accompanied by itching. The symptoms are usually characteristic, among the most notable being the "favus cups." These consist of peculiar, circumscribed, circular, dry, pale, yellowish, umbilicated masses, which at first are firmly attached to the surface of the skin, but later become more or less detached. When taken between the fingers they may be crumbled. The color is generally modified by foreign matter. On detaching one of these cups, the skin beneath is smooth and shining, with a thin epidermal covering, and in a state of hyperæmia or inflamed and suppurating. The amount of crusting varies; when patches coalesce a honeycomb appearance is formed. The disease may attack any part of the body, but the scalp is the usual seat. When the itching is annoying, the patient, from scratching, may introduce the parasite beneath the nails, where it may develop, causing the nails to grow opaque, thick, and friable. A prominent symptom is the odor, which is that of mice or stale straw. Then again the hairs, when the disease affects the scalp, suffer characteristic changes, becoming dry, brittle, and losing their lustre. When the disease is neglected or persists for a time the hairs may become loose, fall out, and leave bald patches, which may be permanent.

It is a chronic affection, usually lasting years. It is due to the development of the vegetable fungus, the achorion Schönleinii. It does not develop on every individual with the same degree of readiness, but requires a peculiar condition of the skin. As a rule, it is a disease of the poorer classes, and is comparatively rare in this country. It is not infrequently met with in some of the lower animals, as cats, rabbits, and mice, from which it may be communicated to man.

It is a local disease and usually affects the hair and follicle. The crusts are made up of fungus, consisting of mycelium and spores, also epidermal cells and débris. It may readily be seen with a microscope, and when attacking the nails may be detected in the scrapings. It is especially liable to be confounded with pustular eczema.

Occurring mostly upon the scalp, it is an obstinate disease. The hair should be clipped as short as possible; the crusts removed by means of oil or poultices; the loose hairs extracted, and one of the parasiticides applied. The following are effectual: corrosive sublimate, two to three grains to the ounce of alcohol; hyposulphite of sodium; sulphurous acid, and sulphur ointment. The following may also be recommended:

℞.—Ol. cadini, ...	ʒjss.
Sulphuris sublimati, ...	ʒii.
Ung. petrolei, ...	℥i.—M.

Sig.—Apply twice daily.

Time and persistent treatment are necessary to effect a cure; relapses are common.

Tinea circinata, or ringworm of the general surface, is a contagious, vegetable parasitic disease, characterized by one or several circumscribed, circular, variously sized, reddish, inflammatory, slightly scaly patches, accompanied usually by itching. It begins as a small spot, and develops peripherally. When typical, the patches are circular, later becoming annular. The lesions are only slightly elevated at the border. Usually only two or three patches exist. At times, vesicles, vesico-papules or papules may form.

The disease is superficial, attacking the epidermis and affecting the lower layers secondarily. It is asymmetrical, and may invade any region, with preference for the face, neck, hands, and wrists. In adults it not infrequently attacks the thighs, groins, and axillæ.

The course of ringworm is variable, it being sometimes mild, then, again, obstinate. It may attack the nails, being then known as *tinea trichophytina unguum*, characterized by a whitish or yellowish, opaque, thickened, soft state of the nails. Tinea circinata is caused by the presence of the trichophyton fungus, and is highly contagious; all are, however, not equally susceptible to it. The scales, submitted to the microscope, reveal the fungus.

Local treatment alone is required in the majority of cases. Only in frequently relapsing cases is internal treatment, of a tonic nature, indicated. The most valuable parasiticides are the preparations of sulphur and mercury. The former may be used in the form of an ointment, as sublimed or precipitated sulphur, one to three drachms to the ounce, or in the form of a lotion of sulphurous acid. Ammoniated mercury, thirty to eighty grains to the ounce, or the ointment of the nitrate of mercury, is also useful. The following lotions are efficient:

℞.—Hydrargyri chloridi corrosivi,	gr. iij.
Alcoholis,	
Aquæ,	āā fʒiv.—M.

Sig.—Apply twice or thrice daily.

℞.—Chrysarobini,	gr. x–lx.
Ol. cadini,	ʒj.
Adipis,	℥j. —M.

Sig.—Apply twice daily.

℞.—Chrysarobini,	gr. x–lx.
Liq. guttæ perchæ,	f℥j. —M.

Sig.—Apply with a brush.

Tinea tonsurans, or ringworm of the scalp, is a vegetable, parasitic, contagious disease, characterized by one or more variously sized patches, on which the hair is diseased and broken off close to the scalp. It develops rapidly, the surface being the seat of variously sized scaly spots of a reddish, grayish or leaden color. The hair loses its lustre, becomes harsh, dry and brittle. Later, they fall out, giving rise to bald patches. More or less itching is usually present. The disease tends to run a chronic course,—often years. *Tinea kerion* is a form of tinea tonsurans characterized by marked inflammation, suppuration, and the exudation of a yellowish, viscid product from the hair-follicles, and when fully developed the patches are œdematous and boggy.

Tinea tonsurans is a common disease of childhood, and occurs most frequently among the poor. It is caused by the trichophyton fungus, the same as in tinea circinata. The fungus invades the hair, hair-follicles, and epidermis, causing the hair to disintegrate, presenting a peculiar worm-eaten appearance. Under the microscope the hairs of the epidermis are seen to be permeated extensively by the fungus, spores predominating. The bulb of the hair is usually the most invaded. The disease is to be discriminated from eczema, psoriasis, seborrhœa, alopecia areata, and tinea favosa.

The object of the treatment is the thorough destruction of the fungus, and for this purpose the remedies already indicated under the treatment of tinea circinata may be employed. Cleanliness is important. Patients should have their own special toilet articles. The loose hairs are to be extracted with forceps, after which the parasiticide is to be applied. The scalp, as a rule, in this affection, stands strong remedies, especially where there is a tendency to chronicity.

In the form of lotions corrosive sublimate, two to five grains to the ounce of alcohol and water; carbolic acid one part to two of glycerine; sulphurous acid and tincture of iodine may all be recommended. The same may be used in form of ointments. The following may also be mentioned:

℞.—Ung. sulphuris,	
Ung. picis,	āā ʒiv.
Ol. olivæ,	fʒjss.—M.

Sig.—Apply.

Or,

℞.—Ung. sulphuris,	
Ung. hydrargyri nitratis,	āāʒiv.
Ol. olivæ,	fʒjss.—M.

Sig.—Apply.

In acute cases, glacial acetic acid and cantharidal collodion are useful. Where the disease is chronic active treatment is always indicated, as by blistering with croton oil. The patches are painted with the oil until the skin becomes inflamed and pustular. Poultices are then used, loose hairs extracted, and later sulphur ointment applied.

Tinea sycosis, or barber's itch, is a contagious, vegetable parasitic disease of the hairy portion of the face and neck of the adult male, characterized by an affection of the hair and hair-follicles, and more or less inflammation, with the formation of pustular and tubercular lesions. The surface becomes red and scaly, as in ringworm, and assumes a deep-red or violaceous hue, and is studded with follicular pustules. The hairs are loose, dry and brittle. The lesions are discrete or confluent, and if not treated incline to run a chronic course. The subjective symptoms are itching or burning. The cause of this disease is also the trichophyton fungus, which invades the hair and hair-follicle. The disease is contagious, yet some individuals are more susceptible than others. It is for the most part contracted at the barber's. It occurs among all classes, and usually between the ages of twenty and forty. The fungus enters the hair-follicles and penetrates to the roots of the hairs, there setting up a perifollicular inflammation which is followed by infiltration, ending in suppuration. The infiltration of the subcutaneous connective tissue gives rise to the well-known tubercular lesions. Affected hairs examined microscopically, appear more or less disintegrated, their structures containing fungus in abundance, mostly spores. The disease must be differentiated from sycosis non-parasitica, pustular eczema, and acne. As to treatment, both depilation and the use of parasiticides are indicated. Crusts should be removed by inunctions of oils and washing. The hair should be shaved every third day, between which time all loose hairs may be extracted. Lotions of corrosive sublimate, two to four grains to the ounce, hyposulphite of sodium, one to two drachms to the ounce, and sulphurous acid, are usually well borne. The preparations of sulphur and mercury mentioned under tinea circinata are also useful. As a rule, tinea sycosis is not difficult to cure.

Tinea versicolor is a vegetable parasitic disease characterized by variously sized, irregularly shaped, dry, yellowish or light-brownish, slightly scaly patches, occurring mostly upon the trunk in adults. The affection begins in small yellowish spots, scattered over the chest or back; later they spread over large areas. Their outline is sharply defined. The amount of scaling varies; it can always be detected by scraping the lesions with the finger-nail. They are of a furfuraceous or mealy character. The disease occurs, as a rule, upon the chest, sides of thorax, axillæ, and groins, and is irregularly distributed. The amount of itching varies. It may exist off and on for years, sometimes in spite of treatment. It is due to a vegetable fungus called *microsporon furfur*, and is only feebly contagious. It occurs in both sexes after puberty, and is frequently met with in patients suffering from wasting diseases. The fungus consists of spores and mycelium, and is always present in the epidermic scales, usually in large quantity.

The diagnosis is easy; in a doubtful case, a few scales scraped from the lesions, treated with a drop of liquor potassæ, and examined with the microscope, will reveal the fungus. The treatment is usually satisfactory, and any of the milder parasiticides already referred to may be employed. A lotion of hyposulphite of sodium, a drachm to the ounce, is a good and safe remedy.

Scabies is a contagious animal parasitic disease, characterized by the formation of burrows, papules, vesicles, pustules, excoriations, crusts, accompanied by itching. As soon as the parasite reaches the skin it begins to burrow into the epidermis, laying its ova as it advances. These develop, and the young parasites also begin to burrow. The irritation gives rise to the formation of pin-head-sized papules, vesicles or pustules, the disease in two or three weeks becoming general, and affecting more or less the whole cutaneous surface. The itching becomes a marked symptom, the patient scratching and producing a variable amount of excoriation and crusting. The disease may generally be recognized by the multiformity of the lesions. The burrows are formed by the parasite entering into the epidermis and producing linear elevations from one to four lines in length. The regions attacked are the fingers, the flexor surfaces, folds of the axillæ, thighs, penis in the male, nipple and mamma in the female, and umbilicus and buttocks in both sexes. The itching is variable, and as a rule is worse at night.

Scabies is caused by the presence of the animal parasite Sarcoptes scabiei. It attacks all persons indiscriminately, from infancy to old age, being communicated by shaking hands or through the medium of bedding or clothing. In Europe, it is one of the commonest of all skin diseases, but in the United States it is comparatively rare. The itch mite is barely visible to the naked eye. As to the diagnosis, little need be said. Bearing in mind the multiformity and characteristic distribution of the lesions, evidences of contagion and the presence of burrows, there need be no difficulty. It must be distinguished from eczema. External treatment alone is necessary, and one of the best agents is sulphur.

℞.—Sulphuris sublimati, ...	ʒij.
Balsami Peruviani, ...	ʒj.
Adipis, ...	℥j.—M.

Sig.—Apply twice daily.

The above is to be applied freely over the entire cutaneous surface. The treatment should be kept up for several days.

Another formula is the following:

℞.—Sulphuris sublimati,		
Styracis liquidi, . . .	āā	ʒij.
Cretæ albæ, ...		ʒss
Adipis, ...		℥j.—M.

Sig.—Apply.

Or,

℞.—Naphthol., ...	ʒss.
Adipis, ...	ʒiij.
Saponis viridis, . . .	ʒv.
Cretæ albæ, ...	gr. xxx.—M.

Sig.—Apply.

Other animal parasites attacking man, such as the *Leptus Americanus*, *Leptus irritans*, *Pulex penetrans*, *Filaria medinensis*, *Œstrus* (or *Bot-fly*), *Dermodex folliculorum*, *Cysticercus cellulosæ*, develop in the skin and produce a variable amount of irritation. The last-named gives rise to variously sized tumors, and may be mistaken for molluscum epitheliale, sebaceous cyst, molluscum fibrosum, and lipoma.

Pediculosis is a contagious animal parasitic affection, characterized by the presence of pediculi, which occasion peculiar lesions, scratch-marks, and excoriations, accompanied with itching. There are three varieties of the disease, called after the species of pediculi.

Pediculosis capitis, due to the presence of the Pediculus capitis, or head-louse, is met with chiefly in children of the poorer classes, often in adults, and especially women. It occasions much irritation, which, if neglected, gives rise to excoriations, oozing of blood and serum, that become dry and form crusts and in time mat the hair. It may also give rise to an eczematous condition. Where pediculi exist, ova or nits may be detected on the hairs.

Pediculosis corporis is due to the Pediculus corporis, or body-louse (also known as Pediculus vestimentorum, or clothes-louse). The lesions are peculiar. The parasite, in drawing its nourishment from the skin, occasions a pin-point lesion, marked by a fine hemorrhage. The itching compels the patient to scratch, producing thereby linear excoriations followed by pigmentation. The parasite lives and develops in the clothes, usually in the seams, visiting the body to get its sustenance.

Pediculosis pubis is caused by the presence of the Pediculus pubis, or crab-louse, and occurs usually about the pubes, though occasionally in the axillæ, eyebrows, eyelashes, and beard of the male. The parasite is mostly found adhering to the skin, and the ova are on the hairs. The affection is most frequently contracted through sexual intercourse. The diagnosis of pediculosis should present no difficulty. In the scalp and about the pubes the presence of nits on the hairs is positive evidence, while on the general surface of the body the presence of pin-point hemorrhages, excoriations, multiform lesions, especially about the shoulders and hips, is sufficient. The clothing should always be examined.

In pediculosis of the scalp the main object should be the destruction of the parasites. An effectual method is that with petroleum. The head is well saturated with oil and a bandage applied, the dressing allowed to remain over night. Tincture of cocculus Indicus is also valuable. The nits are best removed by repeated washing with vinegar, dilute acetic acid, alcohol, or alkaline lotions. In pediculosis of the body the first step is to remove all the clothes of the patient. They should be subjected to a sufficiently high temperature to destroy life. To afford temporary relief an ointment of powdered staphisagria, two drachms to the ounce of lard, may be freely applied to the skin. A lotion of carbolic acid is also useful. Pediculosis pubis may be successfully treated with simple mercurial ointment, white precipitate ointment, or a lotion of corrosive sublimate, one or two grains to the ounce.

The *Cimex lectularius*, or common bed-bug, *Pulex irritans*, or common flea, *Culex*, or mosquito, and *Ixodes*, or tick, may also attack the skin, producing erythematous, papular or urticarial lesions.

ORIGINAL ARTICLES.

A CLINICAL REPORT ON SOME USES OF MURIATE OF COCAINE IN OPHTHALMIC PRACTICE.

BY E. O. SHAKESPEARE, M.D.,
OPHTHALMIC SURGEON AND PATHOLOGIST TO THE PHILADELPHIA HOSPITAL, ETC.

THE cocaine used was obtained from Foucar, of New York City, about a fortnight ago, and was received in the form of a two per cent. solution.

The following notes which I have made will speak for themselves.

CASE I.—Myself. At 3.5 P.M. pupils normal, and nearest point of distinct vision at 5 inches. Instilled into left eye two drops of cocaine solution. The application was painless. At 3.10 there was decided analgesia of left eye. The bulbar conjunctiva below the cornea of this eye was grasped and pulled with forceps. Contact was appreciated, and the metal felt cold at the first instant, but there was not the least pain. Similar treatment of the conjunctiva of the right eye excited the most lively pain. At 3.20 the pupil of the right eye measured .13 of an inch, while that of the left had a diameter of .25. With the left eye, the nearest point of distinct vision had receded to 7 inches, while for the right eye the nearest point had remained unchanged. There was also some indistinctness of distant vision, due to the manifestation of a slight amount of astigmatism. At 3.45 the diameter of the pupil of the left eye was .27, and the nearest point of distinct vision was at 7 inches. The normal sensibility of the bulbar conjunctiva was now nearly restored. At 4.40 the pupil of the left eye was .21, and the sensibility of the conjunctiva was normal. At 7 P.M. the pupil and the power of accommodation were about normal. During all this time there had been no evidence of irritation of the conjunctiva.

CASE II.—Dr. L., resident physician in charge of the eye wards. At 3.15 P.M. the pupils were normal, of .14 of inch diameter. Three drops of cocaine applied to left eye without discomfort. At 3.18 complete analgesia of bulbar conjunctiva of this eye; as shown by treatment similar to that in Case I. Sense of touch present, but blunted. Right eye accutely sensitive to application of forceps. At 3.28 the diameter of the pupil of the left eye measured .25 of an inch, while that of right remained unchanged. At 3.45 the pupil measured .33 of an inch, but the normal sensibility of the bulbar conjunctiva of the left eye was nearly restored. Accommodative power had been lessened, but it was not measured. At 4.40 the pupil of left eye was .23 in diameter.

CASE III.—Dr. N., resident physician in charge of surgical wards. At 3.15 pupils normal, measuring .14 inch in diameter. Three drops of cocaine instilled into left eye without discomfort. At 3.19 complete analgesia of bulbar conjunctiva of left eye, as shown by tests similar to those applied in the previous cases. Sense of touch dulled, but not abolished. Right eye acutely sensitive to application of forceps. At 3.45 diameter of pupil of left eye .21, while that of right remains unchanged. The normal sensibility of conjunctiva of left eye nearly restored.

CASE IV.—Miss S., nurse in woman's eye ward. At 3.15 pupils normal, their diameter .21 of an inch. Three drops of cocaine introduced into conjunctival sac of left eye, without discomfort. At 3.20 analgesia of bulbar conjunctiva of left eye complete, as evinced by above tests. Sense of touch only blunted. In the right eye sensibility acute. At 3.45 the pupil of left eye was .33 inch in diameter, whilst that of right was unchanged, and the normal sensitiveness of the bulbar conjunctiva of the left eye was quite restored.

CASE V.—Male, white, adult. Present condition: Retinitis pigmentosa—pupils small, of equal size. Two drops of cocaine solution introduced into right eye, without discomfort, three times at intervals of five minutes. Sensibility first tested ten minutes after first application. Pain on application of forceps to bulbar and tarsal conjunctiva of right eye was very slightly felt when the conjunctiva was first grasped, but it did not continue. The eye speculum was introduced without pain, there being only slight discomfort. The conjunctiva of the left eye was acutely sensitive to similar handling. Normal sensibility had returned at the end of a half-hour after last use of the drops. The pupil of the right eye became much larger than that of the left.

CASE VI.—Male, colored, aged. Present state: Senile cataract and marked arcus senilis in each eye. Pupils equal in size and small; both respond to variations in light. No synechiæ. Sensitiveness of the conjunctivæ not very acute. Application of one drop of cocaine to right eye four times at intervals of five minutes. Ten minutes after first application analgesia of right eye complete. Speculum and forceps used in this eye without any pain, whilst same treatment of the left produced considerable pain. Thirty minutes after the last instillation of the cocaine the normal sensibility appeared to be restored. The pupil had not been at all affected.

CASE VII.—Male, white, adult. Present state: Acute granular conjunctivitis, complicated by vascular keratitis and deep, broad, central ulcus corneæ of the right eye. Constant bulbar and periorbital pain, acutely tender to the touch, intense photophobia, much lachrymation. Two drops of cocaine instilled into the eye twice at an interval of five minutes. Three minutes after the first application the patient volunteered the information that the pain was nearly gone. The photophobia was also far less marked, as shown by the ability to open the affected eye and look upwards. Palpation now produced but little pain. Five minutes after the second application the pain had entirely disappeared, and considerable pressure upon the eyeball did not excite it. The patient could now open the eye without difficulty.

CASE VIII.—Male, white, adult. Present state: Episcleritis of right eye. One drop of cocaine solution applied to this eye three times at intervals of five minutes. Analgesia in this case incomplete.

CASE IX.—Male, white, nine years old. Present state: Convalescent from acute granular conjunctivitis. One drop of solution of cocaine applied to right eye three times, at intervals of five minutes, produced incomplete analgesia in ten minutes, which continued fifteen minutes after the last application.

Case X.—Male, white, six years old. Present state: Phlyctenular conjunctivitis and keratitis of the left eye. Much photophobia and lachrymation of this eye; it is kept tightly closed when not shaded. One drop of cocaine solution applied to this eye three times at intervals of five minutes. After the second application the photophobia was much lessened, the child could open the eye and look up when facing a strong light from the window.

Case XI.—Male, white, adult. Present state: Chronic catarrhal conjunctivitis of the left eye. One drop of the cocaine applied three times at intervals of five minutes, followed by incomplete analgesia.

Case XII.—Female, white, adult. Present state: Chronic granular conjunctivitis with pannus corneæ. An acute inflammation superadded by the application some days ago of infusion of jequirity. Much and constant pain. One drop of cocaine solution applied twice at an interval of five minutes. Five minutes after the second application the pain had greatly decreased.

Case XIII.—Female, white, adult. Present state: A chronic granular conjunctivitis with pannus corneæ, which had been improved by an application of infusion of jequirity. One drop of cocaine solution applied once. Five minutes after, the lids were everted and rubbed with a crayon of sulphate of copper. No pain was caused by this until some fifteen minutes after the application of the cocaine.

Case XIV.—Female, white, aged. Present state: Senile cataract, incipient in the right eye, complete in the left. Applied, at the clinic Wednesday, Oct. 29th, three drops of solution of cocaine to the left eye twice, at an interval of eight minutes. Five minutes after last application began the operation of a preliminary iridectomy, without other anæsthesia. The patient was seated before me in a chair, her head steadied by my assistant Dr. L. Introduction of the speculum, grasping of the bulbar conjunctiva with the fixation forceps, puncture, counter-puncture and section of upper limb of the cornea with a von Graefe knife caused no discomfort nor the slightest disposition of the patient to wince. But when the iris was cut there was lively pain.

It would seem from the experience related above that the following deductions are warranted:

1st. That when properly applied, this drug is usually capable of rapidly producing a transient and more or less complete local analgesia of the conjunctiva and cornea.

2d. That it will probably prove of great value in various operations in ophthalmic surgery, which, without anæsthesia, are very painful.

3d. That it may be expected to give great comfort to patients suffering with pain from exposure or irritation of the nerves of the conjunctiva or cornea.

4th. That it should be used previous to the employment of caustic or other painful applications to the eye.

5th. That mydriasis is usually rapidly produced, but not always, and that it also rapidly disappears. It would therefore seem to be very useful for simple exploration of the interior of the eye.

6th. That slight paralysis of the power of accommodation follows the application of a two per cent. solution.

LOCAL ANÆSTHESIA BY THE HYDROCHLORATE OF COCAINE.

By R. J. Levis, M.D.,
SURGEON TO THE PENNSYLVANIA HOSPITAL AND TO THE JEFFERSON MEDICAL COLLEGE HOSPITAL.

The notes of a few cases of the use of the hydrochlorate of cocaine will illustrate its perfect efficiency in some and its apparent inertness in others, and may help toward its proper application and general appreciation.

In a double extraction of hard cataract there was no pain produced by the graspings of the conjunctiva in the fixation of the eyes, in the corneal incisions, and in the iridectomies.

A four per centum solution was freely brushed over the entire conjunctival surface three times, at intervals of ten minutes, and the operations were commenced in forty minutes after the first application. No irritation was produced, and the only sensation described was that of "numbness and hardness." The entire conjunctival surface seemed insensible to repeated pinching with the fixation forceps.

In a single extraction of hard cataract a four per centum solution was brushed over the ocular and palpebral conjunctiva, with the eyelids freely everted. Three applications were made at intervals of ten minutes, and the operation was performed at the lapse of twenty-five minutes. The patient asserted decidedly that she felt no pain whatever.

Preparatory to the operation for uterine procidentia and rectocele the vaginal and labial mucous surface was wiped dry, and a four per centum solution of the hydrochlorate of cocaine was thoroughly brushed over it. The sensitiveness was tested at three intervals of ten minutes each, and the application was repeated three times. There appeared to be at no time any decided loss of painful sensibility, and the operation was finally performed under the anæsthesia of sulphuric ether.

For the removal of a rather large tarsal tumor, the ocular and palpebral conjunctiva and the exterior of the eyelids were brushed with the solution as previously used, at intervals of ten minutes, and the excision was performed at the lapse of forty minutes. The operation seemed to be as painful to the patient as if performed without an attempt at anæsthesia.

For the operation for lachrymal obstruction the application was made in the same manner and at the same intervals. The slitting of the punctum and canaliculus gave no pain, but the passage of the dilating probe down the lachrymal canal seemed to produce some uneasiness.

Prior to applying nitric acid as a caustic to a syphilitic ulcer on the tongue, the same manner and number of applications were repeated, the tongue having been wiped dry and held protruding between the teeth. No pain was produced on the thoroughly benumbed tongue.

HOSPITAL NOTES.

JEFFERSON MEDICAL COLLEGE HOSPITAL, PHILADELPHIA.

Clinical Service of PROF. WM. THOMSON, M.D.

USE OF HYDROCHLORATE OF COCAINE AS A LOCAL ANÆSTHETIC, IN OPHTHALMIC SURGERY.

(Reported by DR. WM S. LITTLE, First Chief Clinical Assistant.)

AT the Ophthalmic Clinic of the Jefferson Medical College Hospital, on October 31, Prof. Thomson tested the efficiency of the local anæsthetic, hydrochlorate of cocaine on the conjunctiva and cornea. Two cases of convergent strabismus requiring an operation were selected for the trial.

In the cases which have been already reported by different observers, a two per cent. and a four per cent. solution were employed; Dr. Thomson used a half per cent. solution, two drops being instilled into the conjunctival sac every five minutes during a quarter of an hour; the ocular mucous membrane was then found insensible to the touch of blunt and of sharp-pointed instruments; the palpebral portion of the conjunctiva was not so fully anæsthetized; the cornea could also be handled without any response by the sense of touch; the operation could have then been done, but the lecture hour had not arrived. Fifteen minutes later two more drops were used, and again fifteen minutes later.

The operation on the first case, division of the internal rectus of the left eye, by the Critchett method, was done fifty minutes after the first instillation of the drug, and ten minutes after the last employment of it. The introduction of the ophthalmostat to separate the eyelids was readily borne. In cases without general anæsthesia, this has always been one of the most difficult parts of operative procedures for the patient to bear in doing ophthalmic surgery. The manipulation of the conjunctival tissue was accomplished without any sensation on the part of the patient. The division of the tendon of the internal rectus was only slightly felt, and the patient left the operating table with a smile, having undergone the operation without the discomfort of general anæsthesia. The eye was already under the influence of atropia in order to correct the optical defect; and any action of the cocaine on the iris or the ciliary muscle could not be observed.

The second case, also a convergent squint of the left eye, was operated upon fifty-five minutes after the first use of the drug and fifteen minutes after the last instillation. The conjunctiva, as well as the cornea, was insensible to the presence of cotton applied to it, and dull and sharp-pointed and cutting instruments gave no pain to the patient. The pupil in this case was dilated at the end of fifteen minutes; the extent of the loss of power of the ciliary muscle was not tested. The Graefe method of operation on the tendon of the internal rectus muscle was employed; the patient only felt slightly the division of the tendon.

The patients were young women, and had no information given them as to the action of the drug. The claim for the efficiency of the drug as a local anæsthetic for the tissues of the eye that were operated upon was found to coincide with the results already obtained by those employing it in ophthalmic surgery. Its use cannot be overestimated; nor was any harm found to be done to the humor of the eye when the cases were seen the following day. Sensation had returned to almost the same degree as in the eye not treated with the drug. A further study of its action on the iris and ciliary muscle is required to ascertain its influence on the accommodation.

The use of the drug enables an operator instructing a class of students to show the manipulations to better advantage. Dispensing with the administration of a general anæsthetic reduces the number of assistants, requisite, who always surround the patient and obstruct the view of the class. If anæsthesia is not employed, the pressure of the eyelids upon the speculum separating them annoys the patient, and a severe spasm, with even the best forms of the instrument, may cause loss of vitreous in cataract extraction; in many operations on the eye, under the influence of this local anæsthetic the ophthalmostat can be discarded and retraction of the lids with an elevator or finger of an assistant can be employed.

The possibility of vomiting after ether or chloroform is always a danger after cataract extraction; this can now be overcome by the use of hydrochlorate of cocaine. The principal benefits by its use are that the patient is not a sufferer; that the dread of operations done on the eye can be reduced to a minimum; and that the operator is enabled to study the results of his operation immediately, or modify them, if necessary, without additional pain to the patient; the necessity for this is principally after strabismus operations, and that all manipulations may be done without haste.

In these cases a much weaker solution was used than has been heretofore reported, only a half per cent. solution being employed, which purpose answered all purposes. Dr. Thomson has employed the stronger solution in his private practice, observing that the hyperæmia of the conjunctiva was lessened, and congestion removed in case of slight inflammation, giving us a hope that it may have value as an antiphlogistic as well as an anæsthetic.

MEDICAL PROGRESS.

CANCER OF THE UTERUS COMPLICATING PREGNANCY AND LABOR.—DR. S. HEILBRUNN (*Dissertation*, Würzburg, 1884) reports the case of a woman, æt. 38 years, who was chlorotic until her twentieth year, had typhoid fever when twenty-two, and who had given birth to five children. After the beginning of the sixth pregnancy, in May, 1883, she had irregular hemorrhages, which continued during the whole period of gestation. In October large clots of blood were passed from the vagina, and an examination showed the presence of a twenty or twenty-four weeks' fœtus. In the middle third of the vagina was a nodular tumor, reaching to and involving the cervix—a cancer with papillary growths. The vaginal wall was considerably infiltrated.

The fœtus was in the first head position, the heartbeats being clearly audible. Labor came on December 25th; on the next day the cervix was largely dilated, and the child was dead. Perforation was performed, and the fœtus extracted with the cranicoclast. There was no post-partum hemorrhage. The patient had fever (?) and died in twenty-eight days. The autopsy showed thrombosis of the right iliac, femoral, and saphenous veins, and an abscess of the right broad ligament communicating with the right iliac vein.—*Centralbl. für Gynäkol.*, October 4, 1884.

DISINFECTANTS.—At the close of a paper on this subject, DR. W. J. MILLER, of Dundee, draws the following conclusions:

"1. It is very doubtful that any efficient disinfection of a room can be practised while it is occupied. Nevertheless, it is possible that the presence of a disinfectant, though not in sufficient concentration to kill contagium, may, by long continuance of operation, weaken it, and, if microzymes be the contagium, may so lower their vitality as to impair their power to reproduce their kind. A certain degree of probability is given to this by Prof. Tyndal's observation of the effect of discontinuous heating in sterilizing putrescible liquids, which led him to conclude that there is a period in the life-history of these minute organisms when they are especially vulnerable. It is, therefore, in the direction of good to employ some disinfectant during the progress of the case, and there is none equal, either in efficiency or in simplicity of application, to sulphur. It is exceedingly convenient in practice to use sulphur pastilles, as introduced by Dr. Littlejohn, each of which contains twenty-five grains of sulphur, one or two being used at a time, according to the size of the room. This should be done several times a day.

"2. The skin of the patient should be sponged several times a day with diluted acetic acid, by preference with the aromatic. This is especially applicable in scarlet fever, effectively disinfecting the desquamating skin. I only mention the method of inunction to condemn it emphatically. The strength of the solution must be regulated by what is found agreeable to the patient; a 1 to 20 solution of the aromatic acid, which has been referred to, is generally not too strong.

"3. For the final disinfection of the sick room nothing equals sulphur. But it must be thoroughly applied. The Dundee sanitary authority uses about three pounds of sulphur to a room about ten feet square, carefully closing all apertures by which the fumes might escape, and leaving the room shut up for about four hours.

"4. For disinfection of clothing, etc., the method followed here is exposure to a temperature of about 250° for three hours in a specially constructed chamber, the air being also charged with the fumes of about six pounds of sulphur. It is scarcely possible that any contagium can live through such an ordeal.

"5. Excreta of patients are best dealt with by Dr. Dougal's method—namely, mixture with hydrochloric acid diluted to 1 to 20. He has proved that this solution does not injure the metal fittings with which it comes for so short a time in contact. Clothes may also be thoroughly disinfected by this agent, and without injury.

"6. For hand disinfection, carbolic solution 1 in 20, acetic acid, and sulphurous acid, are almost certainly thoroughly effective.

"7. The question of disinfectant inhalations for lung disease, especially phthisis, demands a longer consideration than can here be given to it, but, when we consider that vaccine which had been exposed for three hours to air saturated with creasote vapor, and similarly for four hours to the vapor of eucalyptus, retained its infectivity unimpaired, that the germs to be acted on are far in the recesses of the air-vesicles, and that the inhaled disinfectant can only reach them in very weak dilution, if indeed it reaches them at all, it appears to me, although it is very disappointing to arrive at such a conclusion, difficult to place much confidence in this therapeutical expedient."—*Practitioner*, October, 1884.

ALTERATIONS IN THE ACTION OF DIGITALIS PRODUCED BY FEBRILE TEMPERATURE.—DRS. LAUDER BRUNTON and THEODORE CASH, at the close of an article on this subject, thus summarize the results of their experiments:

In the cat, and probably all animals in which the vagus centre exerts, as it does in man, a considerable restraining influence upon the pulse, rise of temperature causes at first a slight quickening of the pulse, which is probably due to stimulation of the cardiac ganglia.

This quickening does not increase in such constant proportion to the temperature as it does in rabbits, in which the vagus centre normally acts but slightly upon the heart.

When the temperature rises in the cat above a certain point it weakens the action of the peripheral ends of the vagus on the heart, and also weakens the vagus centre in the medulla.

The action of heat upon those two parts of the nervous system appears to be of the same kind, but it differs in degree, the centre appearing to be more affected than the periphery, so that its inhibitory action is completely abolished at a time when the peripheral ends still retain their functional activity to a great extent.

Though the inhibitory centre in the medulla is rendered inactive by the heat, so that it does not act on the heart, it is not completely paralyzed, and is still able to restrain the heart when it is called into action by a powerful stimulus, such as strong galvanization of one of its afferent nerves.

The action of digitalis upon it is that of a stimulant increasing its activity, and is very much like the effect which we should expect from gentle instead of strong stimulation from one of its afferent nerves.

The practical conclusion which results from our experiments is that a high temperature lessens the inhibitory power of the vagus centre in the medulla to such an extent that digitalis, and probably all drugs which act like digitalis on this centre, lose, to a great extent, their power to restrain the action of the heart and slow the pulse.

The administration of digitalis, or of drugs which act like it, to patients in a febrile condition is, therefore, likely to have much less effect on the pulse than at the normal temperature, and, if the temperature be very high, they may have no effect at all whilst this persists.

When the temperature begins to fall the pulse naturally becomes slower, and this slowness is increased if digitalis has been given at the height of the fever. It is, therefore, evident that digitalis and its congeners, if they are given at all when the temperature is high, should be given with great care, for otherwise the medical man may be induced, by the apparent inaction of the remedy, to push its administration too far during the fever, with the consequence of producing too great depression of the pulse during defervescence.—*Practitioner*, October, 1884.

THE THERAPEUTICS OF EROSIONS OF THE CERVIX.—DR. FUERST read a paper on this subject at a late meeting of the Obstetrical Society of Leipzig. Of 52 cases reported by him 29 were simple erosions and 5 of gonorrhœal origin; 11 were follicular erosions, 1 with hypertrophy of the cervix, 1 with formation of a polypus, 3 with large retention-cysts; 12 were papillary erosions, of which 4 were of fungous origin and bled profusely, but which were non-malignant.

The cases of simple erosion were treated with an injection of permanganate of potash, and then with the application of a one per cent. solution of nitrate of silver. The follicular erosions were scarified and cauterized with nitric acid by means of Playfair's sound, and the papillary erosions were treated with the sharp spoon or the Paquelin cautery. In some cases the after-treatment was such as recommended by Sänger; the dry treatment by means of iodoform powder or vaginal suppositories, and the iodoform tamponade. The lower part of the vagina was filled with glycerine and tannin tampons. The results of these methods of treatment have been very good.—*Centralbl. für Gynäk.*, September 20, 1884.

RESECTION OF THE HEAD OF THE HUMERUS FOR ANKYLOSIS.—PROF. ALBANESE reports, in the *Archivio di Ortopedia* for April, an operation for ankylosis of the shoulder, performed in the surgical clinique of Palermo, in the presence of Prof. Tommasi-Crudeli. The patient, Maria B., aged twenty-one, had during the preceding twelve months, suffered pain in the right shoulder-joint, which gradually became immovable. The appearance on admission, as shown in an accompanying illustration, suggested downward dislocation of the head of the humerus. The acromion was prominent and the deltoid flattened. The patient could not touch her head with the right hand, and the corresponding olecranon could not be brought nearer than eight inches from the chest wall. The patient being under chloroform, Prof. Albanese made an L-shaped incision, three inches and a half in extent, along the spine of the right scapula into the shoulder-joint. The sides of the wound being held open with strong hooks, the head of the humerus was severed by two blows with the chisel on a level with the anatomical neck. The surgical neck, dislocated outwards, was rounded off with gouge and file, so as to fit in a hollow made with a spoon, in the head of the humerus, which was adherent in the glenoid cavity. A drainage-tube was introduced, and the wound closed with interrupted sutures. An antiseptic dressing was applied according to Listerian precepts. Recovery was rapid. The temperature remained normal throughout, the wound was healed within a fortnight, and the patient discharged at the end of a month, with perfect symmetry of the two shoulders. Two months after the operation the patient could bring the elbow to the side, move the arm in all directions, and dress her own hair. —*Lancet*, October 4, 1884.

TREATMENT OF AORTIC ANEURISM.—SCHROETTER reports (*Deutsches Archiv für klin. Medizin*, Bd. xxxv. p. 139, 1884.) the case of a man, forty-four years of age, who had a strongly pulsating tumor to the right of the sternum, reaching from the clavicle to the fourth rib, and threatening to perforate the skin. By means of a fine canula, bent at an angle, Schrötter introduced silk threads into the aneurism. Within four days he introduced 50 inches of thread, without causing hemorrhage. The tumor soon felt harder, and then became painful and inflamed, and the temperature rose. The patient died in two weeks with symptoms of pulmonary œdema.

The autopsy showed an aneurism of the descending aorta, with fatty degeneration of the heart. The aneurismal sac was as large as a child's head, and filled with thrombotic masses. In spite of the fatal issue of this case, Schrötter recommends the method as one likely to be of much value.—*Centralbl. für klin. Medicin*, September 20, 1884.

RESULTS OF ABDOMINAL SECTION.—At the Samaritan Free Hospital, on Wednesday, October 5th, before commencing operations for the removal of the uterine appendages in a case of fibro-myoma of the uterus, and for the removal of ovarian tumors, MR. KNOWSLEY THORNTON stated that, in his last hundred ovariotomies performed at the hospital, there had been three deaths. In one of these fatal cases the patient was an elderly woman, with malignant disease of the stomach, liver, and rectum, as well as a large ovarian cyst. The second death was from hemorrhage, caused by the slipping of a ligature; the patient lost much blood before it was discovered, and never rallied, although she lived a few days after the bleeding had been checked. The third case also died from hemorrhage, but of a different kind. After a tumor had been enucleated from its capsule with considerable difficulty, profuse general oozing occurred from the pelvic tissues, and every attempt to check it proved a failure. Besides the series of ninety-seven successful ovariotomies, Mr. Thornton had successfully performed nephrectomy eight times in succession, as well as one nephrotomy, one nephro lithotomy, and several cases of removal of the uterine appendages, also without a death. He regarded these results as a complete vindication of the value of the strict antiseptic method, since, in this series of major operations, blood-poisoning in any form had been entirely banished, though his operations had been exposed to risk of infection from cases of septicæmia and pyæmia in neighboring wards. These were a series of clinical results, supporting the experimental results recently published by Professor Chiene, of Edinburgh, and both equally tended to establish the valuable protection afforded by the spray. In only one of the ovariotomies was drainage used, and that was a case in which the ureter was wounded, with escape of urine into the peritoneum. Thus, it was evident, Mr. Thornton observed, that, with careful antiseptics, the drainage-tube was unnecessary, and septicæmia was removed from the causes of mortality. The chief Continental operators have, for some time, excluded fatal cancerous cases from their percentage mortality; this reduces the mortality in this series to two per cent., one of the two deaths being certainly from a preventable accident. In no case had any serious symptoms been observed that could be ascribed to the absorption of carbolic acid, though the series included a large number of very severe and prolonged operations, one lasting for three hours and a quarter.

Albuminuria in Strangulated Hernia.—**Dr. Englisch** has recently contributed to the *K. K. Gesellschaft der Aerzte in Wien* a valuable monograph on this subject, based upon the clinical examination of seventy-four cases of strangulated hernia. In thirty-nine albumen was present in the patient's urine. It appears sometimes simultaneously with the principal symptoms of strangulation, sometimes several days later, and disappears in from twenty-four hours to four days after taxis, or successful herniotomy. According to Dr. Englisch, albuminuria, when not previously existent, indicates in cases of hernia, in which symptoms of strangulation are present, that the intestines are involved; when absent only omentum or an appendix epiploica will be found in the hernial sac. The more serious and advanced are the pathological changes in the strangulated intestine, the greater will be the amount of albumen in the patient's urine. A high degree of albuminuria in cases of gangrene of the intestine is a very grave symptom, liable to be followed by suppression of urine after operation. The least trace of albumen in the urine of a patient with strangulated hernia is always an indication for immediate operation, after a very gentle attempt at reduction by manipulation. Dr. Englisch found that increase and diminution of albumen in these cases was invariably simultaneous with an increased or diminished secretion of urine. Casts were seldom found in the urine, and then not until about two or three days after the albuminuria had appeared; the excretion of pigments was increased. In cases of albuminuria from other causes, the amount of albumen was always greatly increased as soon as symptoms of strangulation set in. Dr. Englisch's clinical researches are of considerable pathological value, and the surgeon may bear in mind that he need not be alarmed if, before operating, albumen be discovered in the patient's urine.—*British Med. Journ.*, Oct. 4, 1884.

Removal of a Cancerous Tumor from the Bladder.—The following case came under the care of **Mr. Godlee** at the University College Hospital:

Male, æt. 49 years. No history of stone, rheumatism, phthisis, syphilis, or cancer. About nineteen months ago the patient began to pass a few drops of blood at the end of micturition. No notice was taken of this, until the amount became larger and the intervals of remission longer. It became also more completely mixed with the urine, but occasionally clots were also passed. He felt no pain at first when blood was passed; but three months ago micturition began to be accompanied with pain over the pubes, of a dull character, together with a smarting and itching at the end of the penis. During the last three or four months, patient has had to pass water very frequently, sometimes as often as every half hour, and the quantity passed has been very small; the frequency is a little more at night than during the day. Six weeks ago he noticed something in the urine like a "piece of flesh."

Patient occasionally passes small, flesh-like masses. The urine is now of a smoky, reddish color; it contains a one-fifth albumen, and there is a sediment on standing. This deposit consists of mucus, blood-corpuscles, triple phosphates, and a little pus. On passing a sound, the instrument is deflected to the left as it enters the bladder, and, as the sound enters more deeply, it is impossible to bring it to the middle line, until the back of the bladder is reached, on account of an irregular hard mass growing from the base and right side of the viscus. A small amount of bleeding followed the sounding. A stone could not be felt. It was thought that the mass detected by the sound could be felt with the hand placed above the pubes, and this was verified afterwards when the patient was anæsthetized, it being then possible to grasp the mass between the fingers of one hand placed over the pubes and the forefinger of the other passed into the rectum.

Under chloroform, after examination, Mr. Godlee opened the bladder by the median incision. On passing the finger in, a large sessile growth was felt on the anterior wall of the bladder. This was extracted by means of a Thompson's bladder forceps. The hemorrhage was rather free, but readily ceased after the injection of iced water. Chloride of zinc solution was applied to the interior of the bladder and to the wound, and iodoform was dusted on to the latter. A tube was inserted. It was not possible, apparently, to get away the whole of the growth.

In remarking upon this case, Mr. Godlee said that it is questionable whether a surgeon is justified in attempting the removal of a tumor of the bladder which is so large that it can scarcely be hoped to remove it entirely. The justification of such a proceeding in the present case appeared to be the fact that the man was rapidly losing strength as a result of the hemorrhage and suffering great discomfort from the pain and frequency of micturition. The free application of chloride of zinc and of iodoform kept the bladder perfectly sweet, and the patient thus suffered from no constitutional disturbance after the operation. The question of a second operation may possibly arise, as the nature of the growth was unquestionably epitheliomatous.—*Medical Times and Gazette*, September 27, 1884.

The Reduction of Dislocations of the Hip.—**Dr. S. J. Allen** (*Trans. Vermont Med. Soc.*) gives the method, which he first used in 1841, of reducing dislocations of the hip by manipulations. The first case was that of a woman, æt. 40, who slipped and fell. Grasping the leg with my right hand, and the thigh with my left, I flexed the leg upon the thigh at right angles with the body, somehow the limb became fixed in the position, and could not be moved. It seemed locked, and could not be moved without considerable force and pain. I immediately stepped upon the bed, and standing with her limbs between my own limbs, and placing the dorsum of her foot against my nates, with my right hand under the bend of her knee, I lifted her hips from the bed, holding her steadily in that position less than half a minute, when the head of the bone slipped into the socket, accompanied by that peculiar audible shock which so delights the surgeon's ear.

The second case was that of a man who had a dislocation of the right femur on the dorsum ilii. After the patient was chloroformed, the whole muscular system being relaxed, I stepped upon the bed, and flexed the leg upon the thigh, with the thigh at right-angles with the body, and, placing his foot between my legs with its dorsum against my nates, and my right arm beneath the flexed knee, I lifted his hips well from the bed, and held them immovable in that position less than one-half minute, when the head of the thigh-bone returned into the socket with the usual audible sound. The reduction was accomplished so quietly that the doctor, who was standing at the patient's head, with his inhaler in hand, did not notice when it occurred, nor did he comprehend the method used, and at first questioned the fact of its having been reduced.

By this method, the lower part of the body is lifted well from the table or bed, and held immovable. The weight of the hips and opposite leg rotates the body outwards, producing just sufficient abduction and distention quietly to draw the head of the femur through the slit in the capsular ligament, and direct it into the acetabulum. By this method no further violence is done to the soft parts about the joint; the head of the femur being drawn directly back through the rent in the capsular ligament without increasing its laceration in the least, which no other method *can* claim.

One word in regard to other forms of dislocation of the hip. The dislocation into the ischiatic notch is a mere continuation of the dorsal form; the head of this bone being thrown simply further from the socket, it is evident that this method will quite as readily reduce this form of luxation.

The foregoing cases, it will be observed, are all cases of dislocation of the dorsum ilii, but at the same time we should remember that luxation on the dorsum is the type of dislocations of the femur, and that before reduction is accomplished in the other and rarer forms, the head of the thigh-bone must be thrown on the dorsum before it can be returned to the acetabulum. Indeed, it is not uncommon for the head of the femur to be changed from one position to the other several times during the manipulations before it can be reduced by the method of Dr. Nathan Smith. In my method the *automatic* principle is evident. The patient, being placed and held in a certain position, sets his own dislocation, thereby making him "particeps criminis" in case of suit for malpractice.—*Canada Med. Record*, September, 1884.

FLOATING LIVER.—DR. J. KRANOLD, of Osnabrück, reports (*Med. Korrespondenzblatt des Würtemb. ärztl. Landesvereins*, Nos. 21 u. 22, 1884) the case of a woman, æt. 38 years, and who had been pregnant eleven times, who complained, a few days after her last labor, of a feeling of pressure and dragging pain in the loins; this was followed by constipation and loss of appetite. These symptoms were increased by hard work.

Physical examination showed the presence of a tumor in the right half of the abdomen, which, on account of its size, shape, and situation was recognized as the dislocated liver. The most dependent point of the tumor was recognized as the blunt right border, and lay in the region of the linea iliopectinea of the pelvis. The anterior sharp border was turned to the right, and lay in an oblique position from right below to left above. The fissures in the border of the liver were clearly felt. The upper convex surface of the liver was turned anteriorly. Between the inferior borders of the lung (in the right mammary line) and the upper border of the liver a loud, tympanitic intestinal note, both anteriorly and posteriorly. The upper surface of the liver was smooth. Within a few weeks the pains in the hepatic region and the abnormal sensibility on pressure disappeared spontaneously; prominences could be felt on the upper surface, and some ascites appeared, which increased to such an extent that the abdomen was punctured three times. The mobility of the tumor greatly diminished, and its position changed somewhat. The number of prominences on the surface of the organ increased considerably, and the presence of nodules in the mesentery was also made out. The patient rapidly declined in health, and died in about seven weeks after her entrance into the hospital.

The autopsy confirmed the clinical diagnosis of: floating liver, subsequent carcinoma of the liver, carcinoma of the peritoneum and its appendages, and thrombosis of the portal vein. The suspensory ligament of the liver was elongated, measuring from 1⅘ to 2 inches. The relation of the right and left lobes to the abdominal cavity was normal, except that the whole organ was somewhat turned on the sterno-vertebral axis. The length of the left lateral ligament was more than ¼ inch. The liver was considerably enlarged.—*Centralbl. für Chirurgie*, October 4, 1884.

PARALDEHYDE IN MENTAL DISORDERS.—BENDA has used paraldehyde as a hypnotic in 34 cases of mental disorder, in doses varying from f℥ss to f℥ij. In 12 cases in which it was used on men, 4, 2 of maniacial delirium, 1 of chronic dementia, and 1 of *manie circulaire*, were put to sleep. In a fifth case, of very restless insanity, f℥iss caused sleep, though the mental condition remained unchanged. In the remaining seven cases the action was uncertain or entirely negative.

Of the 22 female cases, mostly in the secondary stages, there were 12 in which paraldehyde caused peaceful sleep during the whole time that it was used. This effect was usually obtained by doses not larger than f℥j. In 7 cases the effect was uncertain or very transient, and 2 cases were uninfluenced. The drug was at first given in oil, but wine was subsequently found to be the best vehicle, sleep being produced in fifteen minutes at most.—*Centralbl. für klin. Medicin*, September 20, 1884.

LIGATION OF LEFT COMMON CAROTID ARTERY AND INTERNAL JUGULAR VEIN.—DR. R. M. STONE, of Omaha, reports the case of a man, æt. 24 years, whose left external carotid and left internal jugular vein were opened by fragments of glass. The hemorrhage was controlled by pressure at first, and then the common carotid artery and internal jugular vein were ligated above the omohyoid. As it was considered unwise to attempt to ligate the distal end of the severed ends of the vessels, a compress, soaked in dilute Monsell's solution, was placed in the wounds.

The wounds were treated antiseptically with powdered boracic acid and bichloride of mercury solution. One of the ligatures was removed on the thirty-sixth day, the other on the seventy-ninth. The patient has fully recovered, with the exception of unilateral facial paralysis, from section of the facial nerve by the glass.—*Medical Record*, October 25, 1884.

THE MEDICAL NEWS.

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SATURDAY, NOVEMBER 8, 1884.

SECONDARY NERVE-SUTURE.

THE experiments of Vulpian, Batowetzki, Philippeaux, and Brown-Séquard on the lower animals have conclusively demonstrated that primary suture of divided nerves hastens their reunion, regeneration, and return of function, and these results have been confirmed in the human subject in the forty-five cases that have been recorded, at least two-thirds being successes, the reports in the remainder being incomplete, either because the cases were lost sight of, or because they were published too soon after the operation.

Up to a comparatively recent period not a few surgeons declared that secondary suture should not be resorted to; but during the present year papers from the pens of MÜLLER, WEISSENSTEIN, and CHAPUT, which may be found, respectively, in the *Deutsche Zeitschrift für Chirurgie*, Bd. xx. Hefte 3 and 4, Bruns's *Mittheilungen aus der Chirurgischen Klinik zu Tübingen*, Heft 2, and the *Archives Générales de Médécine* for August and September, show that the operation yields even slightly better results than immediate suture. Among the more remarkable cases of complete restoration of the physiological functions of the nerve, may be mentioned those of Busch, Holmes, and Esmarch, after union of the radial at three, five, and sixteen months; those of Hulke and Jessop of the ulnar after four months, and nine years; those of Kraussold, Tillaux, and Langenbeck of the median after two, four, and eight months, and another of Tillaux's after fourteen years; and, finally, that of Simon of the median and ulnar nerves after ten months. In the majority of these cases the sensibility was speedily restored, but the period required for the restoration of the motor function was much longer, the earliest being sixteen days, and the longest three years, the average being from nine months to one year.

Of the thirty-three cases collated by Weissenstein, twenty were complete successes, in four sensibility alone was restored, in six the improvement was very slight or not noticeable, while in three the reports were very imperfect. Hence, a complete cure was attained in sixty per cent. of the cases, a result which closely corresponds with that derived by Chaput from an analysis of twenty-seven cases.

The interval between the operation and the return of sensibility averages from two to four weeks. In one case the restoration occurred in sixteen hours, while in four it occurred prior to the fourth day. The restoration of mobility, on the other hand, is much retarded in consequence of atrophy of the paralyzed muscles. In a case recorded by Langenbeck of suture of the radial nerve, about three months after its division, motion was apparent on the fifth day, and the function was completely restored on the twentieth day. In a similar injury, recorded by Müller, however, two years and a half elapsed before active movements were perfect, and the rule may be accepted that a year will be required to restore the atrophied muscles to their normal condition.

The rapid return of sensibility, and less frequently and to a less extent of motion, has led Chaput to hold with Schiff, Gluck, Batowetzki, Falkenheim, Paget, and Tillmanns, that a divided nerve may unite primarily without degeneration of its peripheral end, a doctrine which is opposed by Nicaise, Mitchell, Letiévant, Brown-Séquard, and the great majority of observers. Indeed, the weight of authority appears to sustain the view that Wallerian degeneration of the distal extremity must ensue before new elements can be produced. The explanation of the seven so-called immediate unions, after secondary suture, adduced by Chaput to sustain the former theory, has been given by Arloing and Tripier, who, according to Brown-Séquard, "proved that the various nerves send to each other recurring ensiform or loop-like fibres, which, coming by one of them from an anterior spinal root, goes into another, to ascend to the spinal cord through a posterior root, producing, when acted upon in one nerve, an impression which follows the loop, and then ascends to the cord through the other, giving rise to the so-called 'recurring' sensation so well studied by Magendie and Bernard." In other words, the rapid return of sensation is not due to immediate union of the divided nerve, but to a supplementary function of intact neighboring sensory nerves.

The operation has never been followed by tetanus or by death, and only occasionally by neuritis. Hence, it would appear that secondary suture of the nerves, however long the time which has elapsed since their injury, is as much indicated as is primary suture, since it yields as good results as does the latter procedure. Catgut is the best material for the purpose, and, although Weissenstein recommends the indirect or paraneurotic suture, which penetrates the sheath alone, we are inclined to believe, with Chaput, that the direct stitch is the more secure and favors more rapid union. Be this as it may, the induced current and massage must be methodically and perseveringly employed during the after-treatment, with a view to restore the functions of the atrophied muscles.

NEW VIEWS ON CIRRHOSIS OF THE LIVER.

UP to the present time, nothing seems to have been better determined than that the primary change in cirrhosis of the liver is a chronic inflammatory hyperplasia of the interacinous connective tissue, and that secondarily the cells are destroyed by pressure of the contracting cicatricial tissue. But at the recent meeting of the Society of German Naturalists and Physicians at Magdeburg, PROF. ACKERMANN read a paper in which he claimed that the primary change is a necrosis of the liver cells, constantly associated with a deposit of fat in their interior. This death is brought about by the action of the poison circulating in the portal blood, be it alcohol, phosphorus, or a microörganism. On the other hand, he considers the overgrowth of connective tissue as a secondary, reactive, and even salutary process, intended to limit the primary one. The hyperplasia is attended from the beginning by the formation of a large number of new arterial capillaries which not only serve for the nourishment of the liver, but also render the secretion of bile possible for a time longer. This is accomplished by the formation of new biliary passages, which maintain a communication between the parts of the liver cut off, and the preexisting bile-ducts. It is in consequence of this, according to Ackermann, that jaundice is so rare in cases of cirrhosis. These capillaries, both biliary and arterial, are very distinctly present in the oldest parts of the connective tissue, a fact which is incompatible with the view that the atrophy of the cells is a consequence of the contraction, since, if this were the case, the bloodvessels and biliary capillaries would be destroyed by the process. The liver is smaller, because, as a rule, the destruction of the cells is more rapid than the new formation of connective tissue.

On the other hand, if the connective tissue formation is more rapid than the cell destruction, there must result an enlargement of the entire organ. And this is what always occurs in the first stage, and is sometimes continued, resulting in the morbid product known as that of hypertrophic cirrhosis, which, therefore, according to this view, need not be considered a special form of the disease.

Ackermann admits that there is a very rare affection, which he has seen but once in man and twice in the livers of horses, in which there is a true inter- and intra- acinous hyperplasia of connective tissue which follows the course of the preëxisting vessels, and is not accompanied by the formation of new ones. In this form the cells atrophy from pressure of the neoplastic connective tissue, but the vessels remain patulous, there is no ascites, and to the very end the organ remains larger than the normal, while the surface is smooth instead of nodular.

The discussion was participated in by Profs. Rindfleisch, Strümpell, Aufrecht, Küsner, and Schwalbe. The first adhered to the original view of the origin of cirrhosis and the destruction of the cells by the contracting interstitial tissue, but the others seemed to favor the new views of Ackermann, adducing the analogous process in parenchymatous nephritis, in which a primary cellular change is followed by an interstitial hyperplasia, and the fact that liver cirrhosis begins with a primary disease of the liver cells by causing artificial obstruction of the bile-ducts, While it is acknowledged that phosphorus poisoning induces a rapid destruction of liver cells, Küsner adduced the fact that chronic phosphorus poisoning causes a "classic cirrhosis," whence he thinks it also highly probable that in ordinary cirrhosis the primary change is in the parenchyma, while the interstitial hyperplasia is secondary.

There can be no doubt that there is some force in the analogies presented, but, had they been carried a little further, it is not impossible that a different conclusion might have been reached. It is well known that there is a form of interstitial inflammation in the kidney in which there is a primary interstitial hyperplasia and a secondary destruction of parenchyma cells. It is well known, too, that this process is a slow one. Is it not more reasonable to suppose, therefore, that the same cause, operating slowly and in small quantities, produces an interstitial hyperplasia, which, when concentrated and operating rapidly, acts upon the parenchyma cells? At the same time, these researches of Ackermann open a new direction of research and thought which may lead to valuable results.

OUR MEDICAL MUSEUM AND LIBRARY.

Now that the election is over, and it may be hoped that a member of Congress will listen to suggestions which have no immediate relation to "practical politics," and will remember the same for more than twenty-four hours, it is very important that the interval of a few weeks which is to elapse before the meeting of Congress should be utilized by the medical profession throughout the country in urging upon members the urgent necessity for making provision this winter for a commodious fire-proof building for the Army Medical Museum and Library, so-called.

The state of the case is briefly as follows.

During its session last winter Congress was induced, by the representations of the medical profession of the country made through committees of all the principal societies, and also by individual medical men through their friends and acquaintances among the members, to take up the question of providing such a building.

In the Senate the following bill (Senate bill 403) was passed and sent over to the House:

> "That the sum of three hundred thousand dollars is hereby appropriated, out of any moneys in the treasury not otherwise appropriated, for the purchase of a site and the erection in Washington of a brick and metal fire-proof building, to be used for the safe-keeping of the records, library, and museum of the Surgeon-General's Office of the United States Army; and the building shall be constructed in accordance with plans and specifications provided by the Surgeon-General of the Army, and approved by the architect of the Capitol extension; and the money hereby appropriated shall be expended under the direction and superintendence of the officer in charge of the State, War, and Navy Department Building."

The Committee on Public Buildings and Grounds in the House, after a long delay, and just at the end of the session, reported the following bill to the House (H. R. 48).

> "That a brick and metal fire-proof building, to be used for the safe-keeping of the records, library, and museum of the Surgeon-General's Office of the United States Army, is hereby authorized to be constructed upon the Government reservation in the city of Washington, in the vicinity of the National Museum and Smithsonian Institution, on a site to be selected by a commission composed of the Secretary of War, the Architect of the Capitol, and the Secretary of the Smithsonian Institution, and in accordance with plans and specifications submitted by the Surgeon-General of the Army and approved by said commission, the cost of the building, when completed, not to exceed the sum of two hundred thousand dollars; the building to be erected and the money expended under the direction and superintendence of the Secretary of War.
>
> "Sec. 2. That the sum of two hundred thousand dollars is hereby appropriated out of any moneys in the Treasury not otherwise appropriated, for the commencement and completion of said building."

This bill is now on the calendar of the Committee of the Whole in the House, and the Senate bill, as passed, is also before the House. It will be seen, therefore, that the matter rests with the House, and the danger is that in the short session, with the crush of business which will occur, this matter of so much importance may be crowded out or overlooked, if members are not reminded by their medical friends that it is a matter of great interest to the profession that this building should be provided for this winter. We want this building completed and the priceless treasures of the museum and library safely stored and properly displayed in it when the next International Medical Congress meets in Washington, in 1887, and there is no time to be lost in the matter.

A FACTOR IN THE PREVENTION OF DISEASE.

In order to effect a wise and efficient application of the principles of preventive medicine in the household, a knowledge of these principles and a prompt coöperation with the health officers are absolutely indispensable. How best to secure these important objects is a perplexing question in sanitary administration. The health laws and regulations may be ever so carefully prepared, and their official execution wisely attempted, but unless their intent and meaning are clearly comprehended and their provisions faithfully and intelligently carried out by the individual, much, and a very important part, of the intended benefits will be rendered nugatory.

In no particular is this experience more deplorably realized than in the case of the domestic management of contagious and infectious diseases. Whilst presumedly under the direction of the health officer, it is practically controlled by the authority of the household, and the results depend mainly on the manner in which this is exercised. It is impossible for the health officer, or his agents, to exercise a constant supervision over the important details of the management of these cases. He can direct and instruct, and, by occasional visits, infer approximately as to the measure of completeness with which his advice has been carried out; but he will fail to secure the desired results, unless there be an intelligent coöperation, which is based upon a clear comprehension of what is required to be done, and the reasons therefor.

Ignorance in matters relating to sickness and sanitation is the great barrier to success in the use of the means for the prevention of disease. To overcome this serious obstacle, is the aim of all enlightened sanitary government. Effort has been made to disseminate knowledge by the circulation of tracts containing specific information on sanitary topics, by discussions on hygiene in the public press and in the lecture hall, and by the publication of health primers. These means are valuable, and their use has been of great assistance in dealing with the practical questions of domestic sanitation. But there is still need of a general and more thorough system of instruction in the fundamental principles of hygiene, designed to reach the youth of the community.

The instruction of the young must be considered as an important factor in the prevention of disease. It should be compulsory, and form part of the course of study of the elder children in our schools. With most persons it is not an easy nor a pleasant task to acquire technical lessons in any study in after-life. "It is hard to learn while the struggle for daily bread is going on." Childhood is the impressible period of life; the lessons learned in youth are not apt to be forgotten. Advantage should, therefore, be taken of this circumstance in making the coming generation wiser than their parents, and better fitted to take care of their health. A recent English writer plainly states the whole case when he says: "The elder children in all public schools should be regularly taught a course of simple lessons on the prominent symptoms of infectious diseases, the dangers to be expected, and how to avoid them; the ways in which infection is spread, and how to prevent it; the common defects in house sanitation, and how to detect them; the pollution of air, food, and water, and the dangers of damp and overcrowding on the constitution. In short, a simple course of lessons on health, and how to keep it."

Were this advice reduced to practice, much of the ignorance, opposition, and reckless behavior encountered in the management of communicable diseases, particularly in the houses of the poor, and the serious embarrassment and discomfiture of the health officials in exercising their executive functions, would be removed, while the sanitary government of the household, an important agency in maintaining the public health, would be very greatly promoted.

SUCCESSFUL INOCULATION WITH CHOLERA BACILLUS IN RABBITS.

Some weeks ago, we called attention to the results of inoculations by Nicati and Rietsch, of Marseilles, who had succeeded in producing cholera in animals by inoculation with the specific microbe. In the current issue, we publish a letter from our travelling correspondent, who tells us that Koch himself has now succeeded in producing cholera in animals by the inoculation of the bacillus of cholera, and that the comma-bacilli were found in their intestines.

The same letter reports the result of the examination by Koch of the microbes found by Drs. Finkler and Prior in the intestines of cases of cholera nostras or cholera morbus, also referred to in a recent issue. It turns out that the so-called comma-bacilli of cholera nostras proved to be three different species of bacteria, a micrococcus, a rod bacterium, and a microörganism, resembling the cholera bacillus, but not identical with it, being much thicker and plumper than the latter. So that the threatened overthrow of Koch's theories, on these grounds at least, is averted.

Koch's theory seems to receive support, too, from the paradoxical and empirical treatment of cholera by purgatives which, from time to time, has been brought up and strenuously urged as yielding most successful results. The latest advocate of this method is Dr. George Johnson, who, despite ridicule, even, has strenuously and perseveringly urged his "castor oil" or eliminative treatment. By the use of purgative doses of oil, he proposed to get rid of the offensive morbid secretions of the alimentary canal which contain the peculiar poison of cholera, which, multiplying in the blood, injures certain of its constituents, which are then ejected through the mucous membrane of the intestine. This treatment, it seems to us, is quite consistent with Koch's view of the origin of cholera, and its results appear to give it support; and its efficacy, of course, depends upon the fact that the organisms which infest the wall of the alimentary canal are carried off by the cathartic. Thus this purgative method of treatment, which originally was based on pure empiricism, is now in accord, theoretically, with the latest scientific researches.

REVIEWS.

Corpulence and its Treatment on Physiological Principles. By Dr. Wilhelm Ebstein, Professor of Medicine and Director of the Clinical Hospital at Göttingen. Translated from the sixth German edition by Prof. A. H. Keane, B.A., University College, London. Pp. 89. Wiesbaden: J. F. Bergmann; London: H. Grevel, 1884.

The fact that a sixth edition of this little book has been called for in Germany, where its author is well known as a physician and pathologist of eminence, renders it worthy of attention in every country where a tendency toward obesity exists. Prof. Ebstein claims that there is no necessity for the rigid abstemiousness inculcated by the so-called Banting system, and substitutes for the semi-starvation methods of Chambers, Harvey, Cantini, and Vogel, a diet in which the carbohydrates are restricted but not prohibited, and into which the fat of meat and butter enter largely. According to his observations, the corpulent may take a certain amount of fatty food without growing fatter, and with great advantage in allaying the sense of hunger which torments patients who submit to any marked deprivation of the saccharine and starchy elements of food.

The illustrative cases and addenda, first appended to this sixth edition, are the results of numerous and protracted observations, which convince the author, not only that corpulency may be effectually checked for a time by the method pointed out, but also that by it the accomplished reduction may be permanently secured.

We recommend the brochure to every physician who may be called upon to treat one of the troublesome cases of polysarcia which from time to time demand our care.

A Guide to American Medical Students in Europe. By Henry Hun, M.D., Lecturer on Diseases of the Nervous System in the Albany Medical College. 12mo. pp. 171. New York: W. Wood & Co., 1883.

This is a book such as has long and earnestly been wished for, not only by students on this side of the Atlantic, but, perhaps, still more devoutly by many whose brief period of study abroad was still further curtailed by ignorance of what they could pursue to the best advantage after their arrival upon European soil. Its object is to furnish definite information about the different universities, and the way medicine is taught in them, to a student at the outset of his foreign study, at the moment he stands most in need of such aid.

The first thirteen pages are devoted to sound practical advice, expressed in clear pointed phrases, in regard to the modes of travelling, expenses, study of the languages required, and so forth. The remainder of the book is then occupied with a detailed description of the universities in Austria, Germany, Switzerland. France, and London and Dublin, with an appendix mentioning changes in the various faculties which have occurred whilst it was going through the press.

The author's excellent method is to specify the particular claims of a school, as, for example, of Berlin, which is asserted by the Germans to be a centre for more exact scientific work than its great rival, Vienna; the cost and usual mode of living, the names of the different professors and their numerous assistants, with the subjects they teach, also the days, and even the hours, at which the lectures or demonstrations occur. Favorable comments upon these institutions are frequently made, and occasionally a cautious criticism is indulged in, but the due preponderance of facts over opinions is very guardedly maintained, and most readers, whilst thankful for this improvement upon the arid baldness of the official catalogues, will wish that the author had indicated with greater decision what courses of instruction are not adapted to the needs of American medical students. Dr. Hun's unfavorable impression of the French schools is, however, sufficiently pronounced, since he asserts, "The study of medicine in Paris is so much less satisfactory than in Germany, that all American students who go to Europe do the greater part of their medical work in the different German universities, and spend only a few weeks in Paris."

We advise every medical man who contemplates indulging in a season of self-improvement by European study to procure a copy of this volume without a day's delay, lest some of the abundant crop of polyclinics, which our fertile United States soil has produced so rapidly during the past two years, elect its talented author to leading professorships, and then induce him to suppress his maiden effort in authorship on account of its powerful antagonism to their class interests.

SOCIETY PROCEEDINGS.

CINCINNATI ACADEMY OF MEDICINE.

Stated Meeting, October 13, 1884.

The President, W. H. Wenning, in the Chair.

THE TREATMENT OF INFLAMMATION.

Dr. J. T. Whittaker, in opening the discussion, remarked that the subject of inflammation was so vast that it would be difficult for him to make any very concise remarks upon the general treatment, to which he had been asked to confine what he should have to say. In old times the physician was content to call a disease *morbus inflammatorius*, as a diagnosis, and, in our time, we speak of every disease, from a peritonitis to a paronychia, as an inflammation. An apoplexy, an aneurism, an abscess, are all inflammations. In old times, and even when the speaker was a student, it was the custom to look upon an inflammation as the expression of some peccant material in the blood. The belief then prevailed in the existence of certain humors in the blood, and, whether the disease was a rheumatism in the joints, a smallpox, or a pneumonia, it was thought, in the days of humoral pathology, to be due to peccant matter, which should be eliminated by venesection, purgation, diaphoresis, etc. Therefore, the old writers objected to the introduction of quinine. They said that it diminished the fever, and thus did harm, because the fever eliminated the materia peccans in the blood. It was the law then to bleed, and a physician of the Rhine provinces, as late as 1849, had a suit brought against him because he refused to bleed a patient, affected with pneumonia, fifty-six years of age. Diemerbrock said that a patient with smallpox should be shut up in a closed room, heated by big fires; he was not to change his linen until the fourteenth day, and then only to put on the old linen removed before.

After awhile it was noticed that inflammation was usually attended with fever, and the treatment was then directed against the fever. Cold water was largely used. Cold baths became the prevailing treatment, and at present this treatment is again much employed as the most powerful antipyretic, especially in Germany. Perhaps the most scientific advocate of it is Liebermeister. He has shown us to what an extent fever may be reduced by placing the patient in a cold bath. He has shown us that complete baths are of more benefit than partial baths, and that repeated baths of short duration are of more benefit than longer submersions. Liebermeister has shown us by accurate statistics the value of the antipyretic method of treatment in withdrawing heat from the surface, and, as he claims, preventing its formation within the body.

On this theory, the true antipyresis, was introduced quinine, the remedy which ranks next in value. Perhaps no one has shown us more of the action of this remedy than Liebermeister. He has demonstrated that it must be given in large doses to produce any effect; that anything less than a scruple will have no effect at all in reducing the temperature. He has also made comparative studies with it, and has shown that it should be given between the hours of seven in the evening and seven in the morning, in order to have the most effect; it acts best when the temperature is at its height.

The remedy which is most allied to quinine is salicylic acid, which we now know is best given in the form of a combination with soda, and, in order to make it more effective, we combine it with the bicarbonate of sodium. It also must be given in large doses to produce an antipyretic effect. At least thirty grains should be given, and in Germany they give a drachm—not in one dose, but in doses of fifteen grains every half-hour. It has been shown that if given in this way it produces a much more quick reduction of the temperature. The chief advantage of it over quinine is that it acts more quickly, but it has the disadvantage that its effect is not so permanent. Then comes digitalis. We had our attention drawn to digitalis by Traube. Whether it produces its effect in the same way as these other agents, or by giving greater rest through its action in slowing the pulse, is a question that is still sub judice. Veratrum, aconite, and alcohol are antipyretics of much less force.

But, since the studies have been made with antipyretics, a new treatment has arisen—a so-called antiseptic treatment—and the observation has been made that the antipyretics have power in proportion to their antiseptic properties. A large number of experimenters, and at their head the Health Board of Berlin, have worked diligently to show the value of antiseptics, especially of chlorine and bromine, and it is thought by many that the peculiar action of the bromides and the chlorides is due to the liberation of bromine and chlorine in the blood, and the same remark has been made in regard to the iodides. I think it was pretty much admitted when we last met that inflammation, in internal disease at least, is for the most part a mycosis, due to the introduction into the blood of microörganisms and their development there; and, if this be true, the remedies in the treatment of inflammations will rank according to their value as antimycotics. It may be, later, that we shall be able to bring these remedies into the blood in such a form as to destroy the organisms without affecting the tissues of the body. It is a fact now that where the agents are most successful their action does not depend upon the destruction of the organisms so much as the prevention of their rapid production. The attempt is now being made to discover such compounds of chlorine, bromine, etc., as will slowly liberate these agents in the blood. So, if we look upon inflammation as a mycosis, we may sum up the treatment in the one word—antimycosis.

It is hard to discuss a general subject without some special application, and I do not know, the speaker continued, where we could find a better special illustration than croupous pneumonia. This disease has always been regarded as the type of the acute inflammations—local in its origin and course. In its etiology appeal was always made to "taking cold." But Jürgensen showed us, in a series of keen observations, almost purely clinical, that the local and general processes do not correspond in severity, as should be the case in a disease of local origin; that the disease runs a typical course in 64 out of every 100 cases, terminating spontaneously on the fifth to the eighth day, and that it differs in temporal and spatial relations with the diseases that do seem to be due to exposure to cold. Moreover, that it shows lesions in other organs than the lungs, as in the kidneys, the heart, the spleen, and the brain. Hence, this disease is a constitutional affection, with local expression. It falls under the head of the noncontagious, acute infections, along with malarial and yellow fevers, cerebro-spinal meningits, etc. Hence, antiphlogistic treatment is worse than useless; antipyretic treatment addresses only the effects of the disease, and at present the only rational treatment is the expectant plan. Jürgensen's views have just met with entire corroboration in the discovery, by Friedländer and Fränkel, of the micrococcus producing the disease, and we now await the only true scientific treatment of the disease in the discovery of some antimycotic that will destroy its cause.

DR. S. NICKLES was in favor of drawing a little more definite line between the treatment of inflammation and the treatment of fever. Inflammatory affections are not always attended by fever; some of the most intense inflammatory affections are not febrile; and, again, we have very intense febrile states of the body in which there is present no inflammation. For this reason he could not see the connection between antipyretic treatment and the treatment of inflammation. In all extensive inflammations there is fever present. How this is produced we do not know, but we know that fever may occur from very trivial causes. The mere injection of water into the blood-current will produce fever, and it has been shown that the blood of a dog, taken from one bloodvessel and conveyed into another, will produce fever; therefore the subject of the treatment of fever has nothing to do with the treatment of inflammation.

In considering the general treatment of inflammation, we must inquire, What effect can be produced upon the inflammatory process by a change of the circulation? Of course, if we assume that inflammation is a mycosis, we will seek remedies which are antimycotics. Many inflammations are mycoses, but many of them are not; in the opinion of the speaker, the majority of them are not. When a part of the body has received an insult, when a wound has been inflicted, low organisms may obtain entrance and intensify the inflammation; but even where the skin has not been broken we may have inflammation. What effect can be produced by modifying the general circulation? So far as the speaker had been able to learn, there are no remedies that will change the condition of the inflamed bloodvessels. If certain that the inflammation is a mycosis, it should be our object to destroy the germs which produce the inflammation, or to prevent, as much as possible, their reproduction, and thus stop any further interference with the nutrition of the vessels. But when the change which we call inflammation has taken place, then we have no power over it, unless it be near the surface of the body, so we can reach it by local means, as we often can do. If it be in the lung, or in the meninges, there is no remedy by which we can reach it. Can we do anything by modifying the amount of blood which goes to the part? Marked changes occur in the bloodvessels. Around the inflamed area the arterioles are dilated, and thus increase the flow of blood to the inflamed vessels of the region, while, in the inflamed area, the vessels are dilated and so altered as to retard the circulation and permit the accumulation of an abnormal amount of blood in the part. Can we modify the inflammation by changing the general circulation? The older physicians made use of bloodletting on account of its effect on the circulation, and there are still men, eminent in the profession, who are in favor of modifying the circulation in this way, in the first stage of inflammation, before marked exudation has taken place. The speaker thought it impossible, however, to alter the inflamed bloodvessels in an inflamed area by medicinal means which slow the flow of blood, as through the action of veratrum viride, aconite, and digitalis. It was at one time taught that this could be done; that these remedies would not only modify the amount of blood in the part, but would restore the bloodvessels. These remedies do reduce the temperature, but it is by inducing an artificial collapse; by so reducing the heart that it is not able to send as much blood to the part, but the bloodvessels and the quantity of blood in them will not be greatly altered. He further thought that, with the exception of inflammations of the mucous membranes of the alimentary canal, which could be directly acted upon, little or no benefit is to be derived from the employment of cathartics, diuretics, and diaphoretics, intended to reduce the amount of fluid in the body, or from the limitation of the amount of fluids ingested. Especially will these measures be without value when once the inflammatory process has been well established, although they may, in the later stages, aid absorption, as in a pleurisy with effusion.

It did not seem proper to the speaker to separate the general from the local treatment of inflammation. He therefore continued his remarks with reference to the part inflamed. Inflammation, as a rule, is a self-limited process. If an inflammation continue indefinitely, it is because there are influences which keep it up. If the cause be removed, the inflammatory process rapidly subsides. But we cannot always remove the cause, especially those insignificant little germs that get into our bodies without our knowledge, and remain there we know not how long and produce disease, as rheumatism, pneumonia, tuberculosis, etc. In these cases we cannot get at the cause, unless it should be by the use of antiseptics. In rheumatism we can apparently modify the inflammation. Here the heat, pain, redness, and nearly all the swelling subside within forty-eight hours. There can be little doubt that acute rheumatism is a mycotic disease, and that the salicylate of sodium acts directly upon the cause; but we are not certain of this. We know that in specific inflammations mercury will exert an influence, and so will the iodide of potassium have some effect. Now, in the instance of these two remedies, the explanation is very simple. It has been almost demonstrated that the iodide of potassium is decomposed in the blood and the same is probable of mercury. The present view with regard to mercury is that it is merely the carrier of chlorine, which it gives off in an active state. It is further stated that arsenic and iron act by giving off oxygen in the system. Zinc, copper, lead, etc., are, most of them, carriers of oxygen. After removing the cause of inflammation, the next thing is to keep the part at rest. Keeping the part at rest simply influences the circulation; a part in motion becomes hyperæmic, and a part at rest will usually allow the hyperæmia to subside pretty rapidly. The lymphatic circulation may also be influenced by rest. We know that in peritonitis, it is often sufficient to keep the peritoneum at rest by large doses of opium. In many cases of bronchitis the same is true; the cough and all the symptoms subside, although we have given nothing that acts directly upon the mucous membrane of the bronchial tree.

If the exudations are very abundant in the part, we must act on them, hence the surgeon makes an incision, when pus has collected. We apply cold for no other reason than to diminish the size of the bloodvessels; it is not probable that any other change occurs in the vessels themselves. If the inflammation has spent its force, we apply warmth. The bloodvessels regain their healthy state with an increased supply of blood, hence we apply warmth.

Dr. W. W. Seely remarked that it has been taught for a long time that aconite has a very decided action upon such inflammations as those of the tonsil and pharynx. His attention was first called to it by Ringer, who ascribes to it almost specific action upon these affections. If the statements of this author are correct, the speaker saw no reason why it should not exert a similar influence upon inflammation of the ear, although he had had no personal experience in that application of the remedy. In the main, however, he agreed with the previous speaker in the statement that general remedies have little influence upon local inflammations.

Dr. P. S. Conner said that, so far as general treatment was concerned, he fancied that there are but few remedies of much value; but if we consider local remedies, the number is large and the power great. We have to regard three different sets of conditions; those which precede the inflammation, those which are associated with the early stage, and those which are due to the inflammation, with the changes in the part produced by the inflammation. He recognized the great power we have to prevent the development of inflammation, whether the mycotic theory be correct or not. The investigations of the last fifteen years have shown us how much we may prevent the development of inflammation by keeping the parts clean, by allowing free drainage, and by the use of antiparasitic remedies, preventing the action of germs if they are present, and in this way he thought that we can accomplish more than by any other means. By the adoption of remedies with which we are, every one of us, familiar, we can in a great many instances prevent the development of the inflammation. Here come in rest and the removal of the many causes to which reference has been made. The symptoms which are present in every well-marked inflammation, result almost wholly from the disturbance to the circulation of the part. Rest prevents those physiological and functional changes which result in the increased inflow and diminished outflow of blood. We have a very wide range of remedies, mechanical and chemical, but chiefly mechanical, to which we can have recourse. We may also control the inflow of blood very decidedly by acting upon the local circulation of the part by drawing off blood from the part, or, what is perhaps better, preventing by pressure on the main trunk the inflow of blood through the trunk. We may also, by establishing a certain amount of local irritation, control to a certain extent the pressure of blood in the part. Here comes in the value of pressure made at some little distance from the point of inflammation, a method of treatment that is almost as old as the century;

for early in the century, Onderdonk made use of ligation of the artery going to the part. This treatment was revived by Maunder and Vanzetti, of Padua, who substituted digital compression with equally good results. Then we have the application of cold, which acts, as has been said, by constricting the vessels. So far as we know, we have very little proof that the vessels themselves are diseased. In the earlier stages we have great effect produced by cold, but in the later ones it is not so beneficial as heat. We may also lessen the amount of blood that is contained in the affected area by drawing it off to some neighboring territory, by producing local inflammations, or an effusion of serum which constantly produces a depletion of the vessels carrying blood to the part. When we have to deal with exudations, the result of inflammation, we may very materially lessen the effects, products of the inflammation, by so acting upon the overlying tissues as to relieve the tension of those beneath. Every surgeon lets out the pus, which can only do damage by its pressure on the parts around, and by diminishing the amount of blood carried to the parts beyond. We may, by direct pressure, lessen the inflammation, favor the outflow, and aid the absorption, and may also stimulate the lymphatics so that the current through them is increased in force. Then we have the benefit of position, which is often sufficient of itself to save the parts from excessive damage.

There is no question, the speaker said, but that local bloodletting is serviceable in many cases. Every one of us has seen cases which have been benefited by spontaneous hemorrhage taking place. Everyone has seen benefit follow local hemorrhages in cases of visceral inflammations.

The medical pendulum has swung from one extreme to another, and the time when visceral inflammations were treated by profuse and repeated bloodlettings is now looked upon with disfavor, but yet the surgeon is not so much as the physician disturbed by the loss of a pound or two of blood.

So far as local therapeutic applications are concerned, the speaker considered them of value only in so far as they play the part of local irritants. The local application of the tincture of iodine, as ordinarily used, he considered of no value whatever.

DR. NICKLES did not agree with the last speaker in regard to the use of the tincture of iodine. He thought it of great value in many cases, and said that it had an action not only upon the skin, but also upon the underlying parts, rendering them anæmic. He had also much faith in the use of astringents for their effect on the integuments. They have a marked effect, he said, on the bloodvessels of the skin and mucous membranes. He still held to the view that inflammation is due to an altered condition of the bloodvessels. He then cited examples in which the various astringents exert a beneficial action upon the inflammation.

DR. WHITTAKER, in concluding the discussion, said that he was gratified to hear that aconite had no beneficial action upon inflammation, and no action at all upon the bloodvessels affected, for that coincided entirely with his own experience. He had not had any success clearly due to the agent employed in the treatment of inflammation with any remedy not antiseptic. The beneficial action of the tincture of iron in erysipelas, and of the muriate of ammonia in catarrh, is due to the chlorine which they liberate in the organism. Cold applications do good by diminishing the amount of blood, but the more the blood is diminished, the more diminished is the supply for microörganisms. Rest is of value because it lessens the amount of blood in the part; but the lessening of the blood from rest acts in the same way as from cold. We cannot diminish the amount of blood without influencing the size of the vessel walls, and consequently the amount of their contents. If we admit that rest shuts off the amount of oxygen in the part, the speaker thought that this might be another explanation of its value, for the microörganisms of disease cannot live without that agent. He thought it just as rational to believe that it acts in this way, as simply to say, that it diminishes the amount of blood. Vesication, too, acts on inflammation; there is no remedy so prompt in the relief of deep "bone" pain as the application of blisters. This value could be ascribed simply to the reduction of blood-pressure. But it has been shown that blisters draw off something else than water. It has been declared, as in the article of Bush on kyphosis, that microörganisms evolve chemical poisons. This author goes so far as to assert that blisters aid in the removal of the poison. That seemed to the speaker to be a better explanation than derivation or counter-irritation. With reference to the application of heat, he did not believe that the sodden appearance of the skin, long immersed in water, proved that heat contracts the bloodvessels, but that the vessels long dilated and emptied have become collapsed. Astringents are of value only, and in proportion, as they have antimycotic properties. The best of all antimycotics is the bichloride of mercury, and thus we find the authority for the administration of mercury by our forefathers. For no matter in what form mercury may be given, it always eventuates in the body as a chloride. We can not affect inflamed bloodvessel walls with any drug, that is true, but we may address the cause of the inflammation, and that is rational practice.

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, October 6, 1884.

THE VICE-PRESIDENT, S. W. GROSS, M.D.,
IN THE CHAIR.

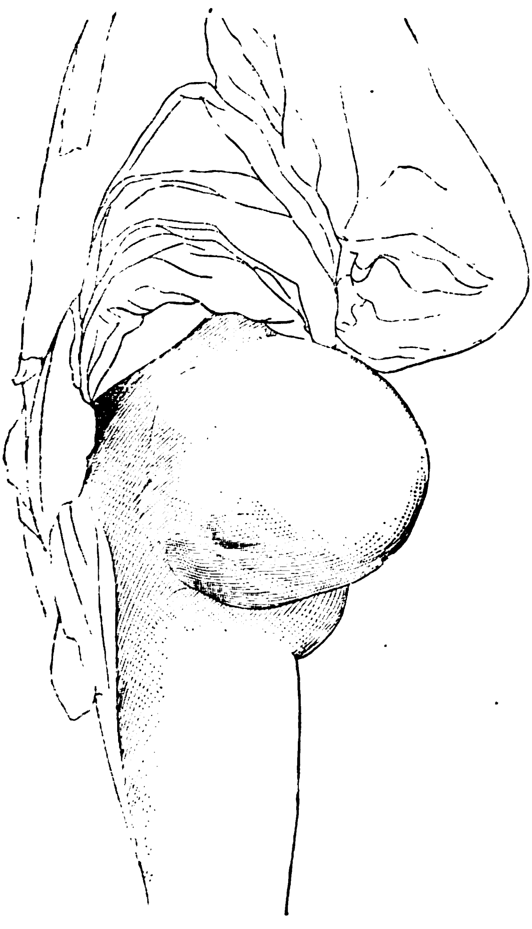
DR. J. EWING MEARS presented the specimen of a

LARGE CYSTO-SARCOMA OF THE LEFT HIP

removed by operation, and read the following history of the case:

Jas. R., white, single, æt. 20, was admitted to St. Mary's Hospital, August 27, 1884, under care of Dr. J. Ewing Mears. The patient first noticed the tumor about thirteen months ago, when it was about the size of a hen's egg, hard, painless, and the overlaying skin natural looking. He paid little attention to it, although it grew rapidly, and it was not seen by anyone else until five months after its first appearance. At that time it was as large as the head of a four months' infant, and the change in patient's figure drew his brother's attention to it, who advised him to consult a physician. He consulted various physicians and surgeons, and quite conflicting opinions were given as to the nature of the tumor, its attachments, and the dangers of operative interference. He was also advised to live as well as possible, and to enjoy the few remaining months before him, which advice he followed until admitted to the hospital. The tumor, meanwhile, grew rapidly, reaching the size already given in the notes.

On admission his general health was good and his tissues well nourished. On the left hip he presents a tumor (see figure) extending from the great trochanter to 2½–3 inches above crest of ilium, and 2 inches from middle line of sacrum behind. The circumference at base is 31 inches; over top from above downward, 15 inches; from before backward, 20 inches. Integument red and glistening, with here and there roughened patches indicating irritation. In front, and slightly below median line, two projections indicating cysts. Fluctuation marked through entire extent of growth. Surface of tumor elastic on palpation; easily depressed; movable on base; succussion distinctly perceptible.



September 10th, Dr. Mears removed the tumor. There were present, Drs. Keen, Grove, Roberts, the house-staff, and three medical students. The incisions were made in the sound skin around the base of the growth, and the tumor rapidly dissected away, proving to have no connection with the bone, but to lie almost wholly in the subcutaneous connective tissue, with some attachments to the deep fascia overlaying the gluteal muscles. Hemorrhage was great, but mostly from greatly dilated venous channels in the tumor. The growth being very pliable, the cyst ruptured early in the operation, discharging a quantity of brownish-yellow fluid.

Several small vessels piercing the deep fascia were secured with carbolized silk ligatures, while oozing was checked by the use of hot water. An attempt was made to secure relaxation by the use of pins and wires, but failed, owing to the situation of the wound and the struggles of the patient.

The wound was dressed with twenty-four thicknesses of sublimate gauze wrung out in 1 to 1000 solutions of corrosive sublimate, eight dry layers of the same, sublimate cotton, oakum, and broad rollers. The sponges used in the operation were wrung out in 1 to 1000 sublimate solution; hands and instruments were carbolized. The anæsthetic was ether, used in Dr. Mears's apparatus, without vaporizer, which answered admirably.

Patient's condition during operation was good, and he reacted well, though there was for several hours a great discrepancy in the strength of the radial pulse as compared with the heart beat.

Dr. George Dock, Resident Physician, examined the tumor, and made the following report: After removal the tumor contracted somewhat from loss of blood, and the skin lost its dark, shiny appearance, becoming pale and wrinkled. Internally it presents the ruptured cyst wall, and numerous nodules. Around the incision the skin was not involved, and as the tumor was not cut, it has not yet been ascertained whether it was so over the most prominent part of the tumor or not. The nodules vary in size from an almond to a large walnut, and in color from white to a yellowish-brown. They are soft, extremely friable or of loose texture, and rather juicy, the juice being thin, whitish, with fine granular matter in suspension. The lobules are marked off distinctly from the surrounding adipose tissue.

Sections were made of two of the nodules, one white and comparatively firm, the other soft and yellowish. the latter showed a few small spindle-cells, but was in an almost complete condition of fatty and cavernous degeneration. The other, of which sections are shown, is made up of small spindle-cells, arranged in bundles, running in every direction, and with a small amount of intercellular substance. Many of the cells have departed from the typical form, and resemble almost fully developed connective tissue. These characteristics, with the fact of the numerous bloodvessels without proper walls, prove the tumor to be a sarcoma of the small spindle-celled variety. The distinct outlines of the nodules, and high grade of development of the cells, show, in the opinion of most authorities, a slight degree of malignancy, and encourage a favorable prognosis.

The cyst does not show in its present condition, as it did prior to the operation. It was an enormous growth, and there were grave questions in regard to the propriety of operative interference. It was decided, after consultation and careful examination of the growth, that as the man was only twenty years old, and his general condition excellent, he was entitled to a chance. There was some question as to the attachments of the tumor. It was so movable that the general opinion was that it was not attached to the bone or periosteum, or if it had any deep attachment, it was to the periosteum.

At the time of operation, it was found to lie entirely in the connective tissue. The deep fascia of the gluteal muscle and that covering the lower portion of the abdominal muscles, seemed to have served as a barrier, limiting the growth. Even at some points where the fascia was removed, examination with the microscope showed that there was no real involvement.

The removal of the tumor, of course, left an enormous wound. This was dressed with sublimated cotton, gauze, oakum, etc. Since the operation, the wound has almost entirely filled up to the level of the surrounding skin, and is contracting. We have endeavored to secure rapid cicatrization by the use of skin grafts, but thus far only two have been successful.

There are one or two points about this case which Dr. Mears desired to emphasize. He thought that in this case very great benefit was derived from the use of sublimated gauze dressing. The first redressing was done on the fifth day after the operation. At that time, it presented what might be called a beautiful sight. It was as dry as it possibly could be. There was not even that serous oozing which is frequently seen in wounds dressed in this way. Since then, there has been serous exudation, but no pus. The wound was dressed with twenty-four layers of sublimated gauze, and this was covered with sublimated cotton and oakum in the usual way. The patient has at no time had any unfavorable condition.

Dr. W. W. Keen called attention to one point, namely, the necessity for early operations in these cases, when the wound left will not be so large. If this tumor had been removed earlier, it could have been done with greater ease to the surgeon and greater advantage to the patient. In such cases, no skin flap can be used for the covering. He is in the habit of skin-grafting as early as there is a reasonable granulating surface appearing.

Dr. S. W. Gross stated that this man came under his observation last February. At that time the tumor was probaby two-thirds of the size which it afterwards reached. It presented certain peculiarities which it did not exhibit when seen by Dr. Mears. It was perfectly immovable and conical in shape. The skin over the mass was discolored. The growth was elastic and imparted the sensation of pseudo-fluctuation. He pronounced it to be a sarcoma. The introduction of an exploring needle was followed by the escape of blood. He considered it a very vascular, small-celled sarcoma, and, on account of its immobility, advised against any operation. If it had been movable, he would have removed it, but with the expectation that it would return. He should not be surprised to hear that before the wound has healed the disease has returned. He did not know what authorities can give such statements with regard to its slight malignancy as are expressed in the notes. This is a medullary sarcoma and is extremely malignant.

According to the specimen, the growth should be called a cystoid sarcoma, not a cystic sarcoma. There is no true cyst. It is a highly vascular sarcoma, portions of which have broken down forming cavities, which were filled with a chocolate-colored fluid. If, for instance, a sarcoma occurs in the breast where there are lacteal glands and ducts, which may become dilated into cysts, there would then be a true cystic sarcoma. This is, however, a case of cystoid sarcoma.

Dr. Keen said that he did not arrive at the operation until a few minutes after it had been begun, but his impression of the fluid which he saw on the floor, is that it was almost serous in character or slightly brownish.

Dr. Gross said that these extravasation cysts may contain pure blood. Usually the fluid is chocolate-colored containing débris of tissue.

Dr. Mears said that he removed the growth as rapidly as possible. The fluid escaped, but he did not observe its character very closely. He thought, however, that it was brownish-yellow in color.

CINCINNATI MEDICAL SOCIETY.

Stated Meeting, October 14, 1884.

The Vice-President, Dr. Zenner, in the Chair.

Dr. F. O. Marsh read the following paper on

CYSTIC DEGENERATION OF THE CHORION.

The condition expressed by the above title is also variously denominated Uterine Hydatids, Hydatidiform Mole, Vesicular Mole.

It has no connection, however, with the growth of true hydatids. The condition is rare and the diagnosis not often made, yet cases are liable to be met with in the practice of every physician. It is a subject, also, which has been rather fully treated in obstetrical literature, and its pathological character beyond a doubt determined to be a hyperplasia of the tissues of the chorionic villi in the early months of pregnancy.

It is not the object, therefore, of this paper to enter into a discussion, more than incidentally, of the diagnosis, pathology, or treatment of the affection, but simply to report a case which has fallen under my notice in order to exhibit certain points of comparison with the reports of several cases which have recently appeared in the French journals.

I shall, therefore, first read the history of my own case, which occurred at the Cincinnati Hospital during my service as Interne in the wards of Dr. Wm. H. Taylor, through whose kindness I am permitted to report the case, and to whom I am indebted for various works of reference on the literature of the subject. I shall subsequently, for the sake of comparison, read the reports of the three or four French cases as they were published in the *Gazette Hebdomidaire*, lastly adding a few critical remarks.

Case I.—Lizzie J., æt. twenty-four years, came into the house on December 11 at noon. The general physique is apparently good. She has been married four years, and her first child, now twenty months old, is now in the hospital for slight diarrhœa, but exhibits no signs of syphilitic taint. The patient herself shows no signs of syphilitic trouble. Had quotidian and tertian fever for one month three and a half years ago. First began to menstruate at fifteen years of age, and had dysmenorrhœa before marriage. She last menstruated in September, three months previous to coming into the hospital. Since menstruation ceased, she has had irregular attacks of vomiting. She now complains of "heartburn," and is unable to retain anything upon the stomach. The feet and legs have been swollen for two months, and are now markedly œdematous; the hands have been swollen; the face is full and florid; no puffiness of the eyelids observed.

The patient has had headache during the most of her present pregnancy, with attacks of giddiness at times. She was attacked with blindness the day before coming into the house. She has been much distressed lately in reference to domestic affairs, and her manner is restless and irritable. She seems to be generally hyperæsthetic, complaining especially of any manipulation of the abdomen; has had epistaxis and hæmoptysis at irregular intervals, and thinks she passes less urine than normal. There have been no discharges of any kind from the vagina till three days ago, when she began flooding without any assignable cause, and had uterine pains resembling those of labor. From this attack she partly recovered, but became worse again last night. No flooding or pain exists at present. Pulse 92; temperature 98.4°; respiration 32, and labored. Uterus extends to umbilicus. No fœtal heart-sounds or uterine bruit. Vagina lax, cervix high up, and os closed. In view of the restlessness, abdominal tenderness, and previous hemorrhage, she was ordered to be kept quiet in bed, and one-sixth of a grain of morphia was administered. At a later hour on the same day, five P. M., the urine was found to be heavily loaded with albumen, and to contain hyaline casts. The patient was found to be suffering from blinding headache and irritability of the stomach. Regarding her condition as strongly uræmic, vigorous treatment was instituted to meet the indications in the shape of pilocarpine hypodermically, the hot pack, laxatives, and chloral per rectum.

December 12.—A. M. Pulse 120; temperature 98.4°; headache gone; complains of feeling hungry, but can retain nothing upon the stomach in the shape of food. Ordered cream of tartar lemonade freely. Dr. Mackenzie, of the medical staff, was called in consultation. There was a slight præsystolic cardiac murmur at the apex, and moist râles over the right back. Ordered tincture of digitalis and small doses of quinine every three hours. Slight improvement in the general condition was noticed. Two days after her admission, however, abortion again threatened, with moderate hemorrhage, but the symptoms subsided.

Finally, on December 15th, four days after coming into the house, the hemorrhage and labor pains returned. The bleeding was moderately severe, and digital examination showed the os the size of a twenty-five cent piece, and the presenting part soft and boggy. Though no pulsating vessels could be felt, the case was regarded as one of placenta prævia, and the finger was passed within the os internum and swept around the lower segment of the uterus detaching the mass as far as possible. An unsuccessful attempt was then made to introduce a Barnes's bag of small size. A tent the size of the index finger was finally introduced through the speculum. During this manipulation I noticed three or four cysts, resembling frog-spawn, adhering to the finger. The diagnosis of hydatid mole being at once made, the uterine contents were lacerated as far as possible with the finger, and soon after the whole mass was expelled, in three or four fragments, filling the half of a large wash-basin. Ergot was given and the uterus contracted well.

The case after this progressed favorably for four days. The general symptoms were ameliorated. Isolated masses of cysts with clots and blood at times continued, however, to be discharged irregularly. The cardiac murmur was found to be variable, and the uterus continued tender. However, in spite of the routine precautions of the house against sepsis, she was seized on the fourth day with chill and fever, offensive lochia, and great restlessness. The patient gradually fell into a typhoid condition, and died fifteen days after delivery of the mole.

The autopsy showed the pleural cavity on the left side to contain about half a gallon of purulent lymph, the lung being almost completely compressed. In the peritoneal cavity were found lymph, pus, and adhesions The heart was soft and flabby, showed brown degeneration well marked, the valves being normal. The uterus six inches long, two and one-half inches broad, mucous membrane roughened and uneven, and at one place seemed to have given attachment to the placenta. The ovaries were both enlarged to the size of an ordinary kidney and cystic. The ureters on both sides were dilated from obstruction caused by pressure from the enlarged ovaries. The kidneys were slightly enlarged, and somewhat pale. It may seem surprising that the condition of the pleural cavity was not noted in the clinical history. It is to be remembered, however, that the thorough physical examination of the chest was made twenty days before death. Repeated examinations were abstained from, as the patient was intolerant of manipulation. After the uterus was emptied the respiration improved, and though cyanosis developed at the last, it was considered to be due to valvular trouble. This view was justified by the uniformly rapid pulse, and the cardiac murmur.

The following are the essential points in the history of three cases published in the *Gazette Hebdomidaire* for December 7, 1883, by Dr. E. Verrier, consulting physician at the Eau de Chateauneuf. The first case was that of a young woman aged twenty-one. At the fourth month of her first pregnancy she experienced a serious mental shock, caused by the separation of her husband, who was a soldier and had been ordered away with his regiment. She was seized with flooding at that date, which continued irregularly for forty-five days, when, at five and a half months of gestation, she gave birth to a vesicular mole, showing no trace of fœtus or placenta. The mass came away in fragments, and débris was discharged subsequently. Before delivery the urine was found to be highly albuminous. The patient was seized with puerperal fever, and died, six weeks after delivery, of a purulent infection.

In the second case the age of the patient is not stated. Pregnancy was interrupted about the fourth month, as in the previous case, by mental disturbance. Flooding and attacks of uterine pain continued irregularly for a little over forty-five days, when she gave birth to a mole, in which, however, there still remained about one-eighth of the normal placenta. The uterine cavity was emptied clean without difficulty, and the patient made a good recovery. No albumen was noted in the urine. The author emphasizes the following points in the history of these two cases:

1st. In the two cases we see the pregnancy arrested by some strong emotional disturbance.

2d. Persistent flooding supervened on the moral shock and resisted all ordinary means of treatment.

3d. Chorionic degeneration took place in both cases, the mole being carried about the same length of time in both instances.

The author attributes the more favorable result of the second case to the fact that there still remained some of the normal placenta, the conditions consequently approaching somewhat a normal delivery, the uterus being emptied more completely and without subsequent débris.

The third case was that of a woman aged forty-five—the mother of two children. He saw her at the fifth month of pregnancy on account of persistent vomiting, which the attending physician had been unable to control. The vomiting yielded temporarily to leeching the cervix. She was subsequently delivered of a vesicular mole.

In drawing conclusions from this last case, Verrier says: "Authors have assigned other causes to this condition, but none, so far as I know, have called attention to advanced age in the patient, to which I now direct the attention of the profession." Spiegelberg, however, in his *Obstetrics* (1877), says: "From Bloch's collection of twenty-eight cases, it would appear that advanced age in the patient offers a greater predisposition to the affection than the mere number of pregnancies, primiparæ, however, being seldom affected."

Verrier, also, in reviewing this last case, quotes Sir E. Home as placing persistent vomiting among the probable causes of this peculiar degeneration. He coincides with Home's views in the following terms. He says: "It would be interesting to know whether the vomiting is due to the presence of the mole, or *vice versâ*. As for myself, I am inclined to think that the vomiting acting mechanically gives rise to small disseminated hemorrhages in the placenta, thus causing a partial separation of that body at a level which produces alterations of the chorionic villi without any visible flooding."

Before discussing the merits of this theory, I desire to present the history of another case, published also at a little later date in the same journal by L. Dulac. The report was elicited on account of the resemblance of the case in several points to the three cases published by Verrier—advanced age and uncontrollable vomiting. It will be seen to correspond still more closely with the history which I first presented to you.

"The patient was aged thirty-seven; had been married eighteen years, and had never borne children, though perfectly regular. Three months previously menstruation had ceased, and shortly thereafter œdema of face and ankles appeared. Fifteen days after the appearance of the œdema vomiting commenced, which was repeated daily; the general health, however, continuing relatively good. During the second month flooding commenced, and recurred quite frequently; without, however, proving especially detrimental to the general condition. Almost simultaneously with the metrorrhagia, headache and attacks of dyspnœa supervened. On July 25, the date of my first visit, the patient had slight flooding; face puffy; eyelids œdematous; œdema of the legs extended to the knee. Vomiting existed, but no diarrhœa; vision was impaired, temperature normal. The breasts were enlarged, and yielded a milky serum on pressure; uterus enlarged, and cervix soft; urine loaded with albumen; fœtal movement and heart sounds absent.

"The diagnosis of pregnancy with albuminuric nephritis was made, and treatment directed to the uræmic condition was instituted. Improvement took place under the treatment, but later she was seized with an attack of complete blindness, which was determined to be of uræmic origin; from this she recovered. At the fifth month of gestation, without assignable cause, the patient was seized with severe flooding and labor pains, and was delivered of a vesicular mole, containing a small portion of the normal placenta, which latter showed numerous small hemorrhagic foci. Vesicles and *débris* were discharged for several days, and the patient had symptoms of septic fever. Seventeen days after delivery, she was seized with an eclamptic attack. She recovered consciousness with a hemiplegia, which slowly disappeared, and she made a fair recovery."

Dulac propounds the question whether the uræmia is primary or secondary to the chorionic degeneration. He says, "I believe that in the present case the formation of the mole was secondary to the uræmic troubles and the vomiting. The vomiting, acting mechanically, and the blood changes incident to the nephritis, seem to me sufficient to account for the formation of the hemorrhagic foci alluded to." He concluded that we are justified in adding a new cause of vesicular mole to the usual list, viz., early uræmia and the dependent accidents.

In offering a different view of the causal relations existing in the chain of phenomena which have been traced in the clinical histories presented I would call attention to two circumstances which, it seems to me, have not been sufficiently emphasized in this affection.

1st. The effects of an abnormal rate of distention of the uterine cavity.

2d. The abnormal relations existing between the uterine mucous membrane and the uterine contents. The fact is well recognized and is exemplified in the cases here presented that the uterus in a case of vesicular mole is generally larger than is normal for the corresponding period of gestation. The capacity also of the abdominal walls, no doubt, fails to keep the normal pace with the uterine enlargement and the pressure-effects which often produce the well-known disturbances in the economy even in normal pregnancy, are correspondingly enhanced. As a consequence, there are apt to arise marked lumbar and sacral pains, tenderness over the uterus, fibrillary and irregular contractions of that body. Montgomery mentions cases in which crawling and tapping sensations, most probably due to such irregular contractions, were marked. Such a state of the uterus, combined with the abnormal state of the vessels of the mucous membrane predispose to hemorrhage, both concealed, causing the hemorrhagic foci noted in some cases in the undegenerated portions of placenta, as well as the visible flooding.

A further effect of pressure as revealed by the autopsy of the first case presented to you was marked obstruction of the ureters. Although the enlarged ovaries were found in contact with the ureters, I cannot resist the impression that the additional pressure caused by the rapidly enlarging uterus added to the obstruction and largely determined the uræmic condition.

In this connection it is interesting to note a quotation from Lusk in his *Obstetrics*, p. 531. In treating of the albuminuria of pregnancy he says: "Löhlein examined the records of thirty-two autopsies made upon eclamptic women and found in eight or twenty-five per cent. that dilatation of one or both ureters coexisted with renal disturbances. He therefore pertinently inquires how far simple mechanical obstruction of the ureters may explain the apparent development of uræmic manifestations in certain cases without the warning furnished by albumen in the urine."[1]

He does not state how the obstruction was produced. Doubtless it was due in great measure to pressure from the gravid uterus, and if so, should we not look for such effects much more in a case of rapidly expanding mole? Verrier and Dulac, in their conclusions, have attributed much importance to mental shock, and the succussion caused by persistent vomiting as causative agents in this degeneration.

If the conclusions of Underhill, as quoted by Lusk, are true—that the formation of hydatids cannot commence later than the third month—we are almost forced to abandon the idea held by the above authors that the inception of the disease in two cases was due to an interruption of pregnancy by mental shock at the fourth month. From the examination of the reports of various cases, I am inclined to think that there is often a peculiar mental irritability which would predispose to any moral shock. The persistent vomiting, from what has been said, might well be regarded as secondary.

The second point emphasized in the beginning of the discussion, viz., the abnormal relation between the uterine mucous membrane and its contents, besides contributing so largely to the general condition of irritation which we have noticed, also furnishes the predisposition to septic troubles which has been noted after delivery. Cases have been noticed after death in which the uterine walls had been invaded so extensively by the growth that they resembled the *columnæ carneæ* of the heart walls. Even death from uterine rupture has been observed in these cases. Finally, the conclusions advanced in this paper, in regard to the usual sequence of events in these cases, are not to be accepted as universal, but only as exhibiting certain strong tendencies. The uterus may be smaller than in normal pregnancy, and a case has been published by Dr. Cleveland (*Obstetrical Gazette*, 1883) in which shortness of breath, palpitation, persistent vomiting, and œdema of the legs and face occurred without any unusual enlargement of the uterus. The patient was subsequently delivered of a mole, and recovered.

Dr. Mackenzie said that one point of great interest in this case was the excessive rapidity of the respiration. This was inexplicable by the future course of the case or the post-mortem examination. The pleurisy and pericarditis came on at a later period, and hence could not be considered as the cause. These cases of cystic degeneration are exceedingly perplexing. In a case the speaker had seen, the woman declared that she had only gone two months, and yet the size of the uterus indicated a much longer period of gestation. Soon afterwards all was made clear by the expulsion of a mass of cysts. There was no hemorrhage in this case, and the patient made a good recovery.

Dr. Zenner asked if the condition of the kidneys would not explain the trouble with the respiration.

Dr. Carson asked if there was not some weakening of the heart walls which might throw light upon this point.

Dr. Marsh asked if rapid respiration does not occur in some cases of normal pregnancy and subside after delivery.

Dr. Eichberg said that such rapid respiration in pregnancy should excite grave apprehensions. With regard to the pathology of hydatid formations, it is difficult to understand how a mental impression received three or four months after conception is presumed to have taken place, should so pervert the nutrition of the ovum as to lead to the formation of a mole. It is much more likely that the pathological process begins immediately after impregnation has taken place, and that the ovum is diseased almost from the first. Some researches published by Slaviensky, in Virchow's *Archiv*, seem to support such a view. In examining into the pathology of the Graafian vesicle, he examined the ovaries of females of all ages, beginning with the last few months of embryonic life, and terminating after the menopause. He found, in some of these cases, that the ovaries of children two or three years old presented colloid changes of the Graafian vesicle, which always seemed first to invade the epithelium. In the membrana granulosa the single cells lost their distinctive outline, became swollen, and finally fused into a homogeneous, structureless mass. In some cases the change had attacked the ovum proper, and in others had destroyed even the germinal vesicle.

It does not seem impossible that the impetus given by impregnation to an ovum, morbidly altered in this way, may result in the formation of a large amount of colloid material arranged in the well-known form of a hydatidiform mole.

Dr. Marsh said he had in mind some neurotic element, when he spoke of rapid respiration in normal pregnancy.

Dr. Taylor said that he had reported a case to this Society several years ago, in which the respiration was affected by such a cause as Dr. Marsh had mentioned. The woman had very rapid respiration as well as complete anæsthesia of the skin—pins were plunged into the skin without pain to her. Nothing abnormal could be found upon examination of the thorax.

Dr. Mackenzie said that in the case reported by Dr. Marsh, the rapid respiration could not be referred to a neurotic cause. There was no hysteria in the case. Nor could it be explained by the condition of the kidneys. In the case reported, the respiration was rapid and shallow, while in uræmia it is slow and difficult, somewhat like that of asthma.

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[1] Since the above paper was written the attention of the writer has been called to the excellent paper by Dr. Halbertsma, published in the Volkmann Lectures, 1883, on the "Ætiology of Puerperal Eclampsia," where the idea of obstruction of the ureters as a cause of puerperal convulsions is fully elaborated. The precipitation of convulsions in the majority of instances during labor, Halbertsma attributes mainly to anæmia of the uterus during contraction, and consequent collateral hyperæmia of the kidneys. Considering the anatomical relations existing between the ureters and the cervix uteri and upper part of the vagina to which he calls attention, may it not be due to an acute stretching of the ureters incident to the expansion of the cervix in the process of labor?

Dr. Eichberg said that with regard to the clinical aspect of these cases there is one point which should attract our attention, that is, the possibility of mistaking them for cases of placenta prævia. It is true that most cases of uterine hydatids terminate by spontaneous expulsion, at or before the fifth month, and that the placenta is not then so largely developed as to produce alarming symptoms in the latter case. But the presentation of a boggy mass at the os uteri, the inability to feel any presenting part, and the continuance of hemorrhage, are important features common to both cases.

The difficulty of diagnosis would manifestly not influence treatment very materially, for, should the hemorrhage continue, there would be urgent indications for speedy and complete emptying of the uterus.

Lately a case occurred in the practice of the speaker which, he thought, was undoubtedly one of uterine mole, though he was unable to see any of the expelled mass. About ten days after the time of the usual menstrual period the patient, after making some exertion, noticed a slight hemorrhage, which she supposed to be a return of the catamenia. Upon the following day the hemorrhage became much more profuse, and there was expelled from the vagina a solid mass, composed, as the patient said, of small bodies resembling the immature eggs of a chicken.

The hemorrhage continued, and the speaker saw her, for the first time, a week after the accident. The uterus was low down in the pelvis, the fundus enlarged, and the organ in a condition of marked retroversion, the external os barely admitting the tip of the finger and filled with a bloody mucus. The hemorrhage continued, in spite of absolute rest and repeated intra-uterine injections of tincture of iodine, solution of perchloride of iron, the application of nitrate of silver, and the internal administration of ergot, about three weeks, being apparently arrested for a day or two, and then again returning as before.

Finding these measures unavailing, he finally dilated the cervix with a carbolized sponge-tent and scraped the inner surface of the uterus with a sharp curette, removing some shreds of membrane from the roughened and uneven fundus. The hemorrhage was arrested, and the woman menstruated normally about three weeks ago.

It may be added that in the first month the gastric uneasiness, and other symptoms peculiar to former pregnancies, were noticed by the patient, but no particular attention was paid to them after the bleeding once occurred, because she supposed this to be a return of menstruation.

NEWS ITEMS.

NEW YORK.

(From our Special Correspondent.)

The Hydrochlorate of Cocaine Excitement bids fair to rival that which marked the introduction of hypodermic medication and antiseptic dressing. Two weeks ago the quantity of the salt in New York amounted to only a few grains, which was in the possession of a Third Avenue druggist, who has retailed a two per cent. solution for one dollar an ounce. Dr. Knapp and others have tried the salts of theine and caffeine, and less expensive substitutes, with no results thus far.

The Rhinelander Case.—Recorder Smyth has just declared his opinion in the Rhinelander case, finding the prisoner sane. Rhinelander, who shot the family man of business, whom he accused of having undue familiarities with his wife, was clearly a homicidal monomaniac, as the testimony showed. His appearance and behavior in the court room resembled that of Mr. Meredith in Philadelphia, so far as ingenuity is concerned, and his long cross-examination convinced the newspapers and court hangers-on that he was sane. Large contributions poured in for his defence, and one of the commissioners, who has subsequently been nominated for judge, was so afraid of public opinion that he disagreed with the two other members of the commission, one of whom was a doctor, and brought in a verdict of sanity. Drs. MacDonald and Hamilton testified to his insanity, and the jail physicians who watched him daily concurred in their opinion, detailing certain perfectly clear evidence of paresis, etc. Two or three physicians, however, took the popular side, and contradicted them. One of these "experts," of Milesian extraction, testified that he had "tistid his pronooncyăshun" and found it perfect. The proceedings were a farce, and once more illustrate how difficult it is to advance scientific truths if they do not meet the demand of popular approval.

Dr. Austin Flint, Jr., after a period of many years devoted exclusively to physiology, has resumed the practice of his profession.

Mr. Vanderbilt's Gift.—The princely gift of $500,000 of William H. Vanderbilt to the College of Physicians and Surgeons was made last year, but was kept a secret, as the faculty were in negotiation for land in the upper part of the city.

The "Hot Water Treatment," which has been the fashion among the large contingent of hypochondriacs and neurasthenics for some time past, formed the subject of a paper the other evening before the Academy of Medicine, its efficacy in nervous diseases being considered, and the reader reported cures of posterior spinal sclerosis. In the discussion that followed, a medical gentleman from San Francisco became exceedingly facetious, accusing Dr. Ranney of being in league with St. John, the Prohibition candidate, and suggesting that, after all, the paper was prepared for electioneering purposes.

The hard times have not been without their effect upon the profession. Not only have the receipts of lawyers and medical men fallen off, but numerous cases of destitution are met with on every hand.

WHEELING.

(From our Special Correspondent.)

Constitutionality of the State Law Regulating the Practice of Medicine.—The Court of Appeals of West Virginia, on Nov. 1st, delivered its opinion that the law regulating the practice of medicine and surgery "is constitutional and valid."

The learned opinion, delivered by Judge Green, is a broad one, and at once places the State Board of Health on high legal ground.

CHICAGO.

(*From our Special Correspondent.*)

Chicago Gynecological Society.—In conformity with ancient custom, the members of the Society met on the 31st of October, at the residence of the retiring President, A. Reeves Jackson, M.D., and were entertained at an elegant banquet. After the banquet, the President called the Society to order, and the following officers for the ensuing year were then elected:

President.—Dr. H. P. Merriman.

Vice-Presidents.—Dr. E. C. Dudley and Dr. Charles Warrington Earle.

Secretary and Treasurer. — Dr. Edward Warren Sawyer.

Editor.—Dr. W. W. Jaggard.

After an appropriate address by the retiring President, the Society adjourned to meet Friday, November 21, at the residence of Dr. C. W. Earle.

ZURICH.

(*From our Travelling Correspondent.*)

Cholera Nostras Perhaps Identical with Asiatic Cholera.—The theories of Prof. Koch, which by this time are familiar to your readers, and therefore need no repetition here, suffer a certain check from a number of investigations made by Prof. Finckler and Dr. Prior, of Bonn. These were reported at the meeting of German Naturalists and Physicians (Versammlung Deutscher Naturforscher und Aerzte) in Magdeburg twenty-five days ago, and would have been reported by me then, had I not awaited further developments, which, to my knowledge, however, have so far not been made public.

The rumor that in the stools of cholera nostras a bacillus had been discovered nearly identical with the one found by Koch in Asiatic cholera dejections, attracted to the place of meeting of the section of medicine a large crowd of physicians.

Prof. Finckler stated that lately there occurred in Bonn about thirty-two cases of cholera nostras in a space of six weeks, the disease in its severity resembling in many ways its epidemic sister of Asiatic origin.

At the outset nothing was found in the dejections resembling a bacillus which might be considered the exciting cause of the disease. As it progressed, however, whole nests of bacilli were discovered which bore a great resemblance to the bacillus discovered by Koch in cholera stools. These bacilli could be cultivated on potatoes, milk, gelatine in the same manner as Koch's bacillus; their reaction to coloring matter was the same; and their appearance, twenty-four to forty-eight hours after the commencement of the disease resembled in a striking manner the history of those observed in Asiatic cholera. Finckler also made discoveries in his sterile cultures which have not been observed by Koch. He found long or thick threads (fibrils), which, at a certain period of their existence, acquire a bulbous extremity, and then in a short time are disjointed into large numbers of small bacilli. He also found peculiar formations, of whetstone shape, resembling the spores of erysipelas coccus. These forms can frequently be seen to originate from the bacilli, and dark spots are formed within them, from which again springs a new crop of bacilli.

Finckler stated that he would not assert absolute identity of his bacillus with that of Koch, but repeated the above-mentioned reasons as pointing toward it. His supposition was strengthened by observing small dark spots resembling the bulbs of his fibrils in the photograph of a specimen obtained in Marseilles from an individual who died from Asiatic cholera, which specimen had been declared characteristic by Koch himself.

The pathologists who examined Finckler's specimens acknowledged the striking resemblance. Huepper, of Weisbaden, however, urged the difference in their development, and the fact that in the cultures of Koch's bacillus so far neither fibrils with bulbous extremities nor spores had been demonstrated.

I have been induced to submit this sketch to the profession in America because we may soon have to look ourselves for pathognomonic signs of the dread disease in our own country. It will be important to follow the investigations and discussions of the subject by the distinguished German pathologists, especially so for quarantine physicians and boards of health. Finkelnburg, at the Congress of the Hague, intimated severe censure of the physicians in Toulon for not having at once made microscopic examinations, and, by recognizing the disease, enabled the authorities to hedge it in. This censure is somewhat unjust, in the light of these latest discoveries, which tend to show that the presence of bacilli is not an absolute proof of Asiatic cholera.

Still it is to be hoped that if the two diseases are of a really distinct nature, within a short time the difference in their microbes be clearly established, so as not to rob us of the beneficial results which Koch's discoveries seemed to have for the identification of the epidemic form of cholera in its infancy.

The purpose of these lines will be fulfilled if they induce our pathologists to follow this latest phase in cholera history very closely, and to enlighten the profession in general as soon as more light has been thrown on the subject, with consequent results of practical value.

The Latest Discoveries of Prof. Koch Confirming the Experiments of Nicati and Rietsch; Cholera Produced in Lower Animals by Inoculation of the Comma-bacillus.—In a preceding note were related the investigations of Prof. Finkler on the bacillus he found in the dejections of cholera nostras which he believed to be identical with the comma-bacillus discovered by Koch, thus tending to prove that the bacillus is not the elementary cause of Asiatic cholera. Since then I have learned that Pettenkofer, the great chemist of Munich, in expressing his disbelief of Koch's theory, offered to sacrifice himself by swallowing any number of these bacilli. In justice to Prof. Koch, and to the medical men who are no doubt following these discussions with almost breathless interest, I now hasten to give the latest phase of experiments.

Prof. Koch has made an additional and great discovery concerning the origin of cholera. After numberless failures, he has finally succeeded in transferring the comma-bacillus to animals and producing cholera in them.

Up to the present time it appeared an established fact that animals showed absolute immunity against cholera, and the experiments which had been made by Koch in Egypt and India on mice, rabbits, chickens, monkeys, etc., to demonstrate by inoculation the dangerous character of the bacillus, had utterly failed. The final and crowning proof of Koch's theory was, therefore, lacking. All the other proofs were, however, so convincing that in the Cholera Conference held at the office of the Imperial Board of Health, under the presidency of Virchow, the comma-bacillus was unanimously recognized as the cause of cholera. Nevertheless, this view was combated from various sides. It now happened, four weeks after Koch's return from Marseilles, that news was received of the successful inoculation of the comma-bacillus on animals by two physicians of the Hôpital Sémaphore, Nicati and Rietsch, who had learned from Koch the mode of discovering the microbe. This news was received with some doubt, coming from France, where so many erroneous communications on the subject of cholera had originated, the more so as some important data were lacking. They are, however, now confirmed by experiments successful in Koch's own hands. He inoculated this week from sterile-cultures rabbits with living bacilli; the animals sickened and died with the symptoms of cholera, and at the autopsy the comma-bacilli were found in the intestines. This is an indubitable proof that these bacilli are the only cause of cholera, and Koch's success is secured in every direction. It may well be imagined that this discovery is producing vivid satisfaction among professional men.

Non-identity of the Bacillus of Cholera Nostras and the Comma-bacillus of Asiatic Cholera.—Another discovery, the finding of the comma-bacillus in cholera nostras, has caused great excitement these last few weeks, tending, as it were, to overthrow Koch's theories. Prof. Finkler and Dr. Prior, of Bonn, who claimed to have made this discovery, and reported it at the meeting of German Naturalists and Physicians in Magdeburg, went to Berlin and exhibited their specimens to Prof. Koch at the office of the Imperial Board of Health. Koch confirmed their view of the presence of microbes resembling the comma-bacillus, but requested that they send him sterilized cultures. They were received last week; the so-called comma-bacilli, however, proved to be three different species of bacteria—a micrococcus, a bacteria of rod-like appearance, and a microörganism really resembling the comma-bacillus. These have no relationship with Koch's comma-bacillus, and the last of the three especially was much thicker and plumper than the more delicate comma-bacillus of Asiatic cholera.

Cholera at Marseilles.—The United States Consul at Marseilles has forwarded to the Department of State the following additional interesting details concerning the cholera outbreak at Marseilles.

Gradual decline of the epidemic with a temporary recrudescence.—On the 11th of September the deaths from cholera in Marseilles having declined to an average of three daily, the Mayor directed that the publication of the death-rate by the newspapers should cease. This was in order to eliminate the subject of cholera, as far as possible, from among the topics of every-day comment, and confirm the impression that the epidemic, so far as it concerned Marseilles, was at an end. But within less than a week from that date the weather had become warm, and under this influence the disease had so far revived that on the 18th the choleraic deaths numbered seven, and as popular rumor quickly outran the facts, the daily publication of the mortality list was resumed. Five of the seven fatal cases which occurred on the 18th were sailors or stevedores from the French bark "Resolu," and the circumstances attending the simultaneous attack by the cholera were so extraordinary as to merit notice in this record. The "Resolu" arrived on the 3d, from Reunion, with a cargo of sugar. Her crew were at once discharged, and left for their homes in the north of France. Eleven days afterwards a gang of men, hired in this port, were put on board and began discharging cargo. Within a few hours five of the men thus employed were seized with cholera and died. The vessel was then sent to the quarantine station and thoroughly disinfected. Three others of the men employed on board in discharging the cargo have since died of cholera. The "Resolu" had made a voyage of one hundred and ten days from Reunion, where, so far as is known, not a single case of cholera has occurred this season. There was no illness on board during the voyage, and the captain, who alone remains on his vessel of all who made the voyage, has not been attacked, although he has been repeatedly in the hold, the atmosphere of which seems to have been fatal to the stevedores. The eight men who perished were healthy, robust laborers, mainly Italians, who have been in Marseilles during the entire epidemic, and were, therefore, fully acclimated to the infected atmosphere of the ports. They lived in different quarters of the city, and all were attacked almost simultaneously. The ship had not been exposed to any known choleraic influence more than that which surrounds every vessel which is moored for a fortnight in this infected port, and this incident adds one more to the long list of unexplained phenomena which make the record of this eventful summer.

Methods of transmission.—Keeping still within the definite limit of established fact, it is to be noted that this year has witnessed the utter failure of the quarantine system, as practised by Mediterranean countries. At the first signal of danger from Toulon and Marseilles, Italy established a rigorous quarantine by both land and sea against France and even Switzerland. And yet, cholera has spread to nearly the whole of Italy from Turin to Naples. Corsica imposed a quarantine against all arrivals from every mainland port of the Mediterranean which for barbarous rigor recalled the middle ages. But even Corsica has not escaped. The cholera was brought to Spezzia by Italians from France, who had undergone fifteen days' quarantine, and are believed by many to have propagated the disease during the long detention in the crowded, dirty, ill-kept lazaretto of the frontier in which they had been quarantined.

Similarly the disease was carried to Alicante, in Spain, by a family from Cette, in the consular district of Marseilles, which reached Spain by steamer via Algiers, after having undergone a quarantine of seven days on the African coast. The outbreaks at Arles and les Omergnes were kindled by people coming directly from Marseilles, and it is among the notable facts of this year's epidemic that it has been relatively more fatal in many small vilages than in the large cities. For instance, the maximum record of deaths in one day at Marseilles was 74 out of a population reduced by emigration to say 300,000; this would be a proportion of about 1 in 4000. At Naples the 400 deaths recorded in one day represent only 1 fatal case to about 1000 inhabitants, while at Prades, a village of 3500 souls, in Southern France, the daily death-rate has been as high as 1 to each 300 of the inhabitants. At Arles the death-rate from the 17th of July until the 6th of September averaged about 1 daily to each 1000 inhabitants remaining in the city.

Scientific experiments and conclusions.—Soon after the outbreak of the epidemic the "Société Nationale de Médecine," of Marseilles, appointed a committee comprising seven of its principal members, all leading physicians of this city, with instructions to undertake a series of careful and thorough experiments, with a view of adding, if possible, something definite to the sum of what had been previously known concerning the real nature of cholera and the best methods of preventing and treating it. This committee has enjoyed the fullest opportunities at the hospitals and in private practice, and the results of its labors are announced in a report presented by Prof. Ch. Limon at a recent meeting of the "Société Nationale." The report is too long, and its phraseology too technical, to be transcribed verbatim here, but its substance is as follows:

The experiments of the Committee were of two classes, the first being made with the dejections, vomit, and bed-linen of choleraic patients in all stages of the disease; the second having solely reference to the blood. The results have, therefore, a direct bearing on the fundamental question whether cholera is a disease of the digestive organs, and is transmitted in substances swallowed, or, on the contrary, a disease of the blood, the contagion of which is inhaled by the lungs.

In the first group of experiments the rice-water dejections and matter from the stomach and intestines of cholera patients, as well as concentrated wash water in which freshly soiled linen from their beds had been cleansed, were injected into the stomach and the intestines, the diaphragm and femoral artery of various rabbits, dogs, and guinea-pigs. No fatal injurious effect was produced in any case, except one, in which a rabbit into whose stomach intestinal matter filled with the comma-shaped bacilli had been injected, died eleven days after the operation, without, however, evincing any symptoms characteristic of cholera. Upon dissection the intestines of the animal were found filled with the microbes, showing that they had found there favorable conditions for development. It was thus proved that the so-called choleraic microbe can be propagated in animals without producing any disease analogous to cholera. The hydrant water of Marseilles and the purest spring water in this neighborhood were both found to contain the "bacille virgule" in the proportion of 250,000 per litre, and this large number was not sensibly reduced by passing the water through three layers of filter paper. It is, therefore, concluded that the so-called cholera microbe is simply a harmless animalcule common to most river and spring water, and equally abundant in localities where cholera is unknown.

The second class of experiments was with the blood of cholera patients, taken at various stages of the disease and injected into the veins of animals and examined under the microscope; of 28 injections made with blood taken, 1, from a cholera patient at the beginning of the "algid" period; 2, from the corpse of a person who had died in the same stage; and, 3, from a living patient in the later or reaction stage of the disease, 2 only had a positive result.

These were the cases of two rabbits into whose veins had been injected blood taken from a cadaver which had died in the "algid" stage. Both animals died, one after twelve, the other after eighteen hours, and the blood of both showed the same lesions and changes which had been established as having occurred in the blood of human cholera victims, and which the report describes as follows:

"One of the alterations which, on account of its occurring constantly, appears to us to be of supreme importance, is that which affects the globules of the blood. The particular feature of this alteration is that it does not affect all the globules simultaneously, but, on the contrary, there may have been seen, particularly in rapid cases, globules radically altered, side by side with perfectly sound globules, preserving their normal disposition in the shape of a pile of coin. The alteration consists in a softening of the globule from which there results deformation, produced by reciprocal pressure and an agglutination of the globular masses, all the more marked as the period is more advanced.

"Then, if a current is made to run over the plate under observation, the unsound globules are seen to flow like fluid lava or melted tar, in the midst of more compact masses, and the adherence is such that under the mechanical effect of the current the globules are seen to become oblong, assume an olive shape, or almost cylindrical, and stretch out until their adherent power is broken, and then, if the alteration is not too far advanced, the globule resumes its original form by virtue of its elasticity, but we have ascertained that in very severe cases the globules had this property and preserved the olive shape, even when we had made sure that it was entirely isolated and was not connected with neighboring globules, even by filaments of fibrin. If, in the course of the microscopic observation, artificial serum is added, the much greater portion of the globules are seen to resume their independence, their normal shape, and disposition, in the form of a pile of coin; but in cases in which the globules are the most altered this disaggregation does not take place. In very severe cases the fibrin of the blood, when immediately examined, presents in its coagulation a reticulated texture, which is made manifest by gentian purple; but in order to obtain this effect it is necessary to prepare the solution in water in such a way as not to deform the globules. We have found this alteration of the blood in all the cases, and are, therefore, disposed to consider it as a characteristic, or as the pathognomonic lesion produced by the cholera."

The net results of the entire series of the forty-one experiments are summed up, and the conclusions of the Committee stated as follows:

1. That cholera can be transmitted to animals. This fact is fully confirmed by experiments and observations made at Pondicherry and Chandernagore (East Indies) during the past forty years.

2. That the "rice-water" dejections and contents of the stomach and intestines of cholera patients are absolutely innocuous.

3. That it is only the blood of a cholera patient taken during the "algid" stage that is infectious, and this toxical property is greatest in the early part of this "algid" or collapse period. This is simply a confirmation of the theory of Robin, first announced in 1865.

4. That this infectious property in the blood disappears within a period not exceeding twenty-four hours after the close of the "algid" period.

The report closes with the frank and candid declaration that "we can define what the cholera is not, rather than what it is. We have demonstrated the toxical action of the blood during the algid period, but we have discovered no specific agent of such action. It is there, however, that the toxical agent exerts, as it appears to us, its first action."

Cholera Items.—Consular sanitary report from Calcutta, for the week ending September 13th, states that the deaths from cholera numbered eleven, and that the disease is slightly on the increase.

Consular sanitary reports from Nice, enclosing a declaration from the Foreign Consuls at Nice, Cannes, and Mentone, states that the neighboring winter resorts on the Mediterranean have been entirely free from cholera, and that all quarantine restrictions at Nice have been removed.

The Chargé d'Affairs of France, stationed in Washington, states that cholera has recently appeared at Yport, a small town of the Department of Seine-Inférieure, but that being completely isolated, with no connection with the country around or Havre (both of which are free from the disease), no preventive measures or quarantine against vessels coming from the coast of Normandy is justifiable by the United States.

Bellevue Hospital Medical College.—Dr. Paul Grawitz, assistant to Prof. Virchow, has just been appointed Professor of Pathological Anatomy in Bellevue Hospital Medical College, and Director of the Carnegie Laboratories. Dr. Grawitz was in this country during the past summer. We learn that, as the result of the informal understanding which was then had with him, no doubt is felt as to his accepting the position.

The Cholera in France in 1884.—According to the *Medical Times and Gazette*, of October 11, the *Lyon Médicale* of October 5 states that a statistical enumeration shows that from the 17th of June to the 15th of September there have been about 5000 deaths, distributed over 200 communes, which supposes at least 10,000 or 12,000 cases of the disease.

Professor Schweninger.—Considerable excitement was recently created in Berlin medical circles by the appointment of Dr. Schweninger, by Prince Bismarck, to the position of Ordinary Professor of Diseases of the Skin. It appears that Dr. Schweninger has succeeded in curing some of the ailments of Prince Bismarck and his son, which had resisted the efforts of distinguished members of the Berlin Faculty. The chief objection to the *protégé* of the Chancellor is that there is nothing in his history which promises to confer any honor on the Faculty. Originally a Privat-Docens in Munich, he was, for reasons not stated, excluded from the Munich Faculty; and finding success in practice impossible in that city he went to Berlin, where he ingratiated himself into the Bismarck family.

This, as it appears, unwarranted action on the part of the Chancellor, has called forth a protest from the Berlin Faculty, which, however, has not been noticed by the Berlin journals; probably because they deem it inadvisable in view of the position of the appointer. But it seems that the professorship to which Schweninger was appointed was not sufficient honor, and he has also been made a member of the Imperial Sanitary Board, without any qualification for the position, and against the protest of the Director, Dr. Struck, also formerly a medical attendant on Prince Bismarck. Dr. Struck accordingly resigned his post, and Dr. Koch, in consequence of some unpleasant circumstances connected with the affair, has also given up his seat, after declining to be nominated as Struck's successor.

A cable dispatch, dated Berlin, November 2d, states that Prof. Schweninger, having taken offense at some remarks of Prof. DuBois-Reymond regarding his appointment to the chair of dermatology, has challenged him to fight a duel, which he has declined.

The Health of Professor Huxley.—The *Lancet* states that Prof. Huxley has been recommended to leave England, and to spend some months in perfect quiet and freedom from work. It is believed that he will go to Venice.

Joseph Leiter and the Vienna General Hospital.—On the occasion of the celebration of the one hundredth anniversary of the Wiener Allgemeinen Krankenhaus, with which he is so intimately connected, Herr Joseph Leiter, the celebrated Vienna surgical instrument maker, announced his intention of supplying artificial legs to the extent of 500 florins ($835) per annum, to patients who have undergone amputation.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 28 TO NOVEMBER 3, 1884.

Alden, C. H., *Major and Surgeon.*—In addition to his duties at Fort Snelling, Minnesota, to perform the duty of attending surgeon at Department Headquarters.—*S. O. 127, Headquarters Department of Dakota*, October 23, 1884.

Town, F. L., *Major and Surgeon.*—Assigned to temporary duty as Post Surgeon, Fort Clark, Texas.—*S. O. 145, Department of Texas*, October 27, 1884.

Bentley, Edwin, *Major and Surgeon.*—To be relieved from duty at Fort Clark, Texas.—*S. O. 145, Department of Texas*, October 27, 1884.

Wilson, W. J., *Captain and Assistant Surgeon.*—Assigned to temporary duty at Fort Trumbull, Connecticut.—*S. O. 220, Department of the East*, October 27, 1884.

Corbusier, W. H., *Captain and Assistant Surgeon.*—Assigned to duty at Fort Bowie, Arizona Territory.—*S. O. 99, Department of Arizona*, October 22, 1884.

La Garde, L. A., *Captain and Assistant Surgeon.*—Assigned to duty at Fort Ellis, Montana Territory, relieving First Lieutenant G. E. Bushnell, Assistant Surgeon U. S. A., who, upon being relieved, will report for duty at Fort Snelling, Minnesota.—*S. O. 126, Department of Dakota*, October 22, 1884.

Everts, Edward, *First Lieutenant and Assistant Surgeon.*—Leave of absence extended one month.—*S. O. 107, Headquarters Division of Pacific*, October 21, 1884.

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ORIGINAL LECTURES.

A NEW METHOD OF MAKING A HYDROSTATIC TEST OF THE MITRAL AND TRICUSPID VALVES.

Abstract of a Lecture delivered at the Pennsylvania Hospital, October 15, 1884.

BY ARTHUR V. MEIGS, M.D.,

PHYSICIAN TO THE HOSPITAL.

GENTLEMEN: To-day I wish to direct your attention to a simple method I have devised for demonstrating the action of the auriculo-ventricular valves of the heart. The study of these valves, the mitral and tricuspid, has thus far been in some respects unsatisfactory. In the past I have often gone away from post-mortem examinations feeling that our understanding of their action, and our methods of ascertaining whether they were in a physiological or pathological condition were not what they ought to be. Often, if there had been a difference of opinion concerning the nature of the signs observed during life, the various physicians present at the autopsy would disagree with regard to the conditions seen, each one maintaining that the post-mortem appearances tallied exactly with what he had maintained to be the condition during life. Even concerning so apparently simple a matter as the question of the existence or non-existence of regurgitation, there would be differences of opinion.

Feeling how unsatisfactory and unscientific this condition of affairs is, I have long wondered how it could be done away with. I have thought that if some easily applicable hydrostatic test could be discovered, a long step in the right direction would be made. There is seldom any disagreement as to the post-mortem conditions of the aortic valves, for it is easy to see if there is any obstruction, and equally easy to test whether or not there was regurgitation. This may be done by filling the aorta with water and noticing whether or not the valve leaks. This autumn it struck me that if I had a glass tube of about the size of the aorta made and attached by a rubber hose to the water spigot, I might have an instrument which would serve my purpose. Instead of opening the ventricles, as is usually done at post-mortem examinations, I lay well open the auricles from above so as fully to expose the superior surface of the auriculo-ventricular openings. The heart is then washed out to free it from all clots of blood by passing a stream of water through from the auricles and out by the pulmonary artery and aorta, and all clots are carefully detached and removed. The tube is then introduced into the aorta and pushed in until the end is just beyond the semilunar valves. If the water is now turned on, the beautiful mechanism of the mitral valve may be observed. As the ventricle fills, the two cusps of the valve float upward and their edges approach each other more and more closely until at last the opening is entirely shut, and you notice that when the valves are healthy and the heart not enlarged, no water flows backward, thus showing quite satisfactorily, to my mind, that the mitral valve at least is, when healthy, entirely water-tight.

All the experiments I have made lead me to believe that if there is any leakage the condition is pathological. This experiment does not, of course, reproduce by any means the conditions as they exist during life, for the element of muscular contraction is wanting, the heart being completely relaxed. During life, however, the mitral cusps can only begin to approach each other after the onward flow from the auricle has ceased and the current has begun to be in the other direction, and this can only take place after muscular action has begun and the size of the ventricular cavity is being lessened. I cannot conceive, however, but that my hydrostatic test is a more severe one than the heart is called upon to bear during life, for when the muscular structure of the heart contracts, the walls are drawn in upon themselves toward certain fixed centres and their tonicity and firmness are increased. What I would say is, that it appears to me that any mitral or tricuspid valve which is perfectly tight when subjected to the hydrostatic test in the relaxed condition, which we find in the post-mortem room, was certainly tight during life, when it had the advantage of the tonicity given by muscular contraction. It might be said that a valve which showed a leak when subjected to this test would not have leaked if the heart muscle had been contracted. I do not, however, think this is the case, for the competency or incompetency of the valves seems to depend upon several things: first, whether the valve-flaps are large enough and have sufficient freedom of motion to be able to fill up the opening; and, second, whether or not the edges fit into each other sufficiently perfectly to prevent all leakage. If the heart is enlarged, and its openings dilated so that the valve-flaps have become relatively too small, then there is leakage, or if the chordæ tendineæ have been shortened or distorted by inflammation, so that they are too short to allow the edges of the flaps to come properly together, then there is leakage. Again, if the flaps are thickened or have any unnatural irregularities upon them, so that their edges cannot fit perfectly the one upon the other, the valve is not tight.

This leads me to direct your attention to the different effects produced, when the valves are subjected to varying amounts of pressure. If a very weak stream of water is turned on, it has not sufficient force to close the opening and the water continues to flow backwards, this goes on until the pressure is increased to the necessary point by turning on more water, when at last the cusps come suddenly together, and the regurgitation instantly ceases. If the pressure is still further increased, the heart becomes overdistended and the edges of the valve are pulled slightly apart, and leakage again takes place. This should teach us a valuable lesson as to what may take place during life, and why, when we listen to the same heart under seeming exactly similar circumstances, at one time we hear a distinct murmur which we can satisfactorily time and localize and at the very next moment perhaps the heart acts without the production of murmur. This must depend largely upon the varying force of the muscular contraction. I listened recently to the heart of a woman which was acting irregularly and in whom there is reason to suspect the existence of some structural change of the heart muscle. When the heart beat for a time without an intermission, there was no murmur heard; but each time a beat was dropped, when the more forcible contraction came, which will follow an intermission, the heart trying to catch up what it had lost, there was a distinct systolic murmur produced: showing to my satisfaction at least that even where the causes of regurgitation are present, no murmur is produced if the heart muscle acts very feebly. This is a fact which is very commonly accepted.

It struck me in testing valves by this method that in order to make the application more perfect, two tubes should be used so as to fill both ventricles at the same time, as otherwise the ventricle being tested would be unduly stretched, enlarging at the expense of the other one and thus the opening would become too large and the valve leak when it would not have done so if both ventricles had been filled at the same time. This would be much more likely to happen and might have a much more important bearing in the case of the tricuspid valve and right ventricle than of the mitral and left. In the natural condition of things, the left ventricle is a cavity of which both the anterior and posterior walls are convex when looked at from the exterior. The right ventricle, however, is like a flat cushion and is bent over the anterior surface of the left. When looked at externally, its anterior wall is convex, but its posterior wall is concave. The ventricular septum of the heart forms the anterior wall of the left and the posterior wall of the right ventricle, and, as already said, it is, in the natural condition of things, bowed forwards. In making a post-mortem hydrostatic test of the tricuspid valve, if the left ventricle is empty the posterior wall of the right ventricle is driven by the pressure of water backwards and made to encroach upon the cavity of the left ventricle, and this stretches the tricuspid opening to such a degree that the valve fails to be "water-tight." In this fact, it seems to me, we may have found another proof of the truth of what many observers have taught in the past, that the tricuspid is the "safety-valve" of the heart. If the tricuspid opening is stretched and the valve leaks whenever the blood pressure becomes much intensified in the right ventricle and lessened in the left, as so often happens in cases of bronchitis and other diseases, causing obstruction to the free passage of blood through the lungs—and this happens because the ventricular septum is bowed backwards into the left ventricle—we have almost proof positive that tricuspid regurgitation is a very common occurrence without pathological change in the heart, and that it is actually the "safety-valve" of the heart, because it can so easily allow of the reflux of blood upon the systemic veins and thus relieve increased blood pressure within the right heart and pulmonary circuit.

It would be easy in making this hydrostatic test to have the pressure the same as that which exists in the heart in the physiological condition by using a tube of a fixed diameter and a column of water of a certain height. Whether this test is to prove of much practical value or not time only can show, but it is certainly useful thus far that it offers a method of showing in such a way that the eye can easily appreciate the mode of action of the mitral and tricuspid valves, and that is a thing which has been heretofore undemonstrable.

ORIGINAL ARTICLES.

THE PATHOLOGY OF BRONCHO-PNEUMONIA.[1]

BY FRANCIS DELAFIELD, M.D.,
PROFESSOR OF PATHOLOGY AND PRACTICAL MEDICINE IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

I SHALL offer for your consideration, this evening, some observations on the subject of broncho-pneumonia. I venture to do this for the reason that I believe that this particular lesion suffers from the effects of tradition, from having been called catarrhal pneumonia, and from its relations to pulmonary phthisis. It is also doubtful whether the profession appreciate what a common lesion it is.

I do not mean that the real lesions and symptoms of the disease have not been described. They have been described by different observers; but their descriptions have been, for the most part, fragmentary, and have failed to give a picture of the disease.

The current notions concerning the disease have remained somewhat obscure and indefinite. The prevailing ideas concerning broncho-pneumonia may be stated as follows:

That the terms broncho-pneumonia, lobular pneumonia, catarrhal pneumonia, and capillary bronchitis may all be used to designate the same lesion. Although it is customary to use the words broncho-pneumonia and lobular pneumonia when the disease occurs in children; capillary bronchitis when it occurs in adults; and catarrhal pneumonia when it is believed to be a form of phthisis.

That the inflammation begins in the bronchi, extends to the small and capillary tubes, and then to the groups of air vesicles which belong to these bronchi, and that for this reason the hepatization assumes a lobular form.

That obstruction of the bronchi with inflammatory products frequently produces areas of atelectasis.

That the catarrh may become chronic, the products of inflammation in the air vesicles undergo cheesy degeneration, interstitial changes be developed in the framework of the lung and so a form of pulmonary phthisis be produced.

This, I think, is a fair enough example of the ordinary accounts of broncho-pneumonia—accounts which fail to bring out the essential features of the disease.

Let us, then, turn to the conditions themselves—

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[1] Read before the Pathological Society of Philadelphia, October 23, 1884.

to the clinical symptoms and the lesions of broncho-pneumonia as we all can see them for ourselves.

To approach the subject properly, we must consider the symptoms and lesions of acute bronchitis, as well as those of broncho-pneumonia.

First, then, of *acute catarrhal bronchitis*. This is a disease of very common occurrence, especially in children, but one which seldom proves fatal. Our knowledge of its lesions is derived from exceptionally severe cases, from cases which are complicated by other diseases, and from the symptoms which we observe during life.

The inflammation involves regularly the trachea and the larger bronchi, less frequently the smaller bronchi also. As a rule, the bronchi in both lungs are equally affected.

The first change seems to consist in a congestion and swelling of the mucous membrane of the bronchi with an arrest of the functions of their mucous glands. This is attended with pain over the chest, a feeling of oppression, rapid or asthmatic breathing, and a dry cough.

Fever and prostration are present in a degree corresponding to the extent and severity of the inflammation and to the age of the patient.

After this the mucous glands resume their functions with increased activity, the congestion and swelling diminish, there is a more rapid desquamation of the superficial epithelial cells, an increased growth of the deeper epithelial cells, and a moderate emigration of white blood-cells. Sometimes the red blood-cells also escape from the vessels.

The patient now has less pain and oppression, the cough is accompanied with an expectoration of mucus, mixed with epithelium, pus, and sometimes blood. After death the only lesions visible are the increased quantity of mucus, the growth of new epithelium, a few pus-cells infiltrating the stroma of the mucous membrane, and sometimes a general congestion. If the smaller bronchi are involved, they contain pus cells.

In a moderate number of cases, especially in very young children, certain accessory lesions are added. There may be a general congestion of the parenchyma of the lung, and even a filling of some of the air vesicles with inflammatory products. Still further, the filling of the small bronchi may lead to the collapse of the groups of air vesicles to which they lead, and thus are produced areas of atelectasis, which may be further changed by inflammatory processes.

In acute catarrhal bronchitis, then, the inflammation involves regularly only the mucous membrane of the bronchi; and in this mucous membrane the only changes are: congestion, swelling, changes in the epithelial cells, and in the functions of the mucous glands.

As complicating conditions, we may find atelectasis, congestion of the parenchyma, and areas of diffuse pneumonia.

Now let us consider the lesions and symptoms of broncho-pneumonia.

This disease is of common occurrence in children as an idiopathic inflammation, and as a complication of measles, whooping cough, scarlet fever, and diphtheria. In adults it occurs less frequently, but in them also it may be idiopathic, may complicate the infectious diseases, and may follow injuries of the brain and spinal cord. Constitutional syphilis also may give rise to broncho-pneumonia, and in pulmonary phthisis this same inflammation constitutes an important part of the lesions.

In children, while the inflammation always presents the same essential characters, yet there is considerable diversity, both in the symptoms and in the lesions, in different cases. Thus, in infants a few weeks old, often the only symptoms are rapid breathing, a febrile movement, prostration, and death.

In older children there are well-marked constitutional disturbances—fever, prostration, and cerebral symptoms; in some cases the cerebral symptoms being excessively developed. The breathing is rapid. There may be cough. The physical signs are those of bronchitis alone, or of bronchitis with consolidation of the lung. If there is consolidation, it is developed slowly, and disappears slowly. Not infrequently successive portions of the lung become consolidated. The disease terminates in the death of the patient, in recovery, or it assumes a chronic character. This disposition of the broncho-pneumonia to become chronic, is one of its characteristic features, a feature in which it differs from acute bronchitis and lobar pneumonia. The cases vary, however, as to the degree in which the disposition is carried out.

In some children the disease after running its regular course of one or two weeks subsides, the constitutional symptoms are less marked, the child seems better in every way. But yet the physical signs of consolidation continue, there is still a slight rise of temperature, and convalescence does not fairly begin. In this condition the child may remain for a number of weeks and then get entirely well, except that the percussion note and the breathing remain somewhat changed.

In many such cases as these the recovery is permanent and the child has no further trouble. But in other cases, after the lapse of several months, the child is attacked with acute general tuberculosis. Thus it is not uncommon in children's asylums for an epidemic of measles complicated with broncho-pneumonia to be followed after the lapse of a year by an epidemic of acute tuberculosis.

In other children the course of the disease is more protracted. The physical signs of consolidation continue, there is a febrile movement, the child has no appetite, it gradually emaciates and dies at the end of several months. These cases resemble pulmonary phthisis in their symptoms, but they are really only examples of a broncho-pneumonia which has become chronic.

In still other children the physical signs and the constitutional disturbances continue, but the child does not succumb to the disease. It continues to live with the evidences of a chronic bronchitis which go on year after year. So the child may grow up to adult life, sometimes better, sometimes worse, never entirely well. Cough, expectoration, dyspnœa, occasional fever, harass the patient at intervals. The lung becomes more and more solid, the bronchi more dilated, the pleura thicker, and the affected side of the chest more retracted.

In the cases of acute broncho-pneumonia which die within from two days to three weeks, there is some variety in *the post-mortem appearances*.

The lungs may be large and well aërated, but on section the cut ends of the medium sized and smaller bronchi are unusually prominent and thick, and around them are little zones of hepatization of red, or gray, or white color. This appearance of the lung may be further modified by a cylindrical dilatation of the thickened bronchi.

In other cases the lungs are denser and more congested, and a larger or smaller portion of them is consolidated. The consolidation portions are unaërated, dense, and smooth, of red color, or pinkish gray, or dark red. Or the color may be mottled—small, rounded gray or whitish areas surrounded by red hepatization.

The distribution and extent of the consolidation also vary. The hepatized areas may be small, encircle the bronchi, and situated at some distance from each other. Or they may in some one lobe or part of a lobe be close together, and between them is a more diffuse hepatization, so that this part of the lung may be completely solid.

The appearance of the consolidated lung may be further changed by a cylindrical dilatation of the bronchi.

In still other cases the consolidated portions of lung are of some size and of somewhat regular shape, as if they were portions of lung corresponding to bronchi. These portions are dense, unaërated, of dark red color, and somewhat shrunken.

If the inflammation has become chronic, then over one lobe or part of a lobe the pleura is thickened, bands of fibrous tissue run into the substance of the lung, and the lung tissue is dense, hard, and unaërated.

When we examine these lungs more minutely we notice first some peculiarities which belong to them because they are the lungs of children and not of adults. The bronchi and the connective tissue framework of the lungs occupy a larger relative space than they do in the lungs of adults; and in any inflammation of the lungs they are apt to take a more prominent share. The air vesicles are small and products of inflammation which have been formed within them are absorbed slowly and with difficulty. The walls of the vesicles are lined with a nearly continuous layer of epithelial cells. When the vesicles are inflamed there is a greater production of new epithelium and a less of fibrin than in adult lungs. The small size of the air vesicles render a simple congestion and dilatation of the capillary vessels within their walls a more serious condition than it is in adults. The bronchial glands are more regularly and intensely inflamed. These peculiarities of the child's lung seem to account for its liability to certain forms of inflammation.

The same exciting causes apparently produce in a child under five years of age, broncho-pneumonia; in a person between the age of five and fifteen, broncho-pneumonia, or lobar pneumonia; in an adult, lobar pneumonia.

Now let us consider more in detail the lesions of broncho-pneumonia in children.

The trachea and large bronchi are congested and coated with mucus as in acute bronchitis; but in the smaller, and to a less extent in the capillary bronchi, the changes are of a different character. In these small bronchi the entire thickness of their walls is infiltrated with cells—partly new connective tissue cells, partly pus cells. This change may affect the small bronchi equally in all parts of the lungs, or it may be confined to those situated in one lobe or part of a lobe.

Around every bronchus, of which the walls are infiltrated with cells in this way, is a zone, either of intense congestion or of pneumonia, the inflammation extending directly outwards from the bronchus to the surrounding vesicles.

In the zones of peri-bronchitic pneumonia, the walls of the air vesicles are infiltrated with cells in the same way as are those of the bronchi. The cavities of the vesicles are filled with pus and epithelium, or with an organized tissue composed of a basement substance and cells.

These constitute the essential features of the lesion—a bronchitis which involves the *walls* of the bronchi, and a pneumonia which involves the vesicles *surrounding* the bronchi, and which produces changes in the *walls* of the vesicles as well as in their cavities, while the inflammatory products within the cavities of the vesicles are not only pus and fibrin, but also organized tissue.

To these essential lesions are often added other accessory changes. The bronchi, of which the walls are infiltrated with cells, may be dilated. Between the zones of peri-bronchitic pneumonia the lung is congested, and there may be areas of diffuse red hepatization, which do not, however, correspond to bronchi. There is often a layer of fibrin on the pulmonary pleura. There may be areas of atelectasis corresponding to obstructed bronchi.

The bronchial glands are swollen, and the seat either of simple or of tubercular inflammation.

When the broncho-pneumonia passes into the chronic condition, the inflammation usually persists only in part of a lobe, or a single lobe, while the rest of the lungs return to a normal condition. In that portion of the lung in which the inflammation persists, we find the small bronchi with their thickened walls and their zones of peri-bronchitic pneumonia. The number of bronchi involved may be moderate, and then a section of the lung will look as if it were studded with fibrous nodules. Or most of the bronchi may be involved, the zones of peri-bronchitic pneumonia are close together and the entire lung tissue is dense and solid. In either case the bronchi may be dilated and the pulmonary pleura thickened. As the inflammation goes on, its interstitial character becomes more and more marked until the affected portion of lung becomes converted into a mass of fibrous tissue, in which the bronchi still remain, while the air vesicles are obliterated. The bloodvessels, however, are not obliterated, for the most part, so that the lung does not become necrotic or degenerated. Still occasionally areas of cheesy degeneration exist.

These are the characteristic features, then, of the broncho-pneumonia of children.

In adults broncho-pneumonia occurs in one of four forms: As an idiopathic inflammation of acute and severe type. As a subacute inflammation. As a complication of the infectious diseases and of lesions of the brain and spinal cord. As one of the lesions of phthisis.

1. The acute, idiopathic broncho-pneumonia of adults.

The invasion of this disease is acute and severe.

The patients have rigors; pains in the head, back, and chest; vomiting and marked prostration. The temperature runs between 102 and 105; the pulse is rapid; the breathing is rapid and unsatisfactory. There is cough, at first dry, later accompanied by profuse muco-purulent and bloody expectoration. There is venous congestion of the skin, albumen in the urine, and cerebral symptoms. When we examine the chest we find the percussion note normal, or exaggerated, or dull. There are crepitant, subcrepitant, and coarse râles with sibilant and sonorous breathing.

The cases usually terminate fatally in about seven days. After death we find both lungs large, heavy, and congested. There is fibrin on the pulmonary pleura. The trachea and large bronchi are congested and coated with mucus. The smaller bronchi contain pus, their walls are thickened and infiltrated with cells, and around them are zones of air vesicles with their bloodvessels gorged with blood, and in their cavities epithelium pus and fibrin.

2. *The subacute broncho-pneumonia of adults.* This is a rare disease. It has a clinical history much resembling that of acute phthisis.

The patients are attacked wiih prostration, fever, cough, and muco-purulent expectoration, dyspnœa, pain in the chest, coarse râles all over the chest, with dulness over the consolidated portion of the lung. These symptoms continue, the patients lose flesh and strength, and die at the end of several weeks.

After death we find fibrin on the pulmonary pleura. The larger bronchi are congested and coated with mucus. There is an irregular, diffuse red hepatization mottled with small white nodules from the size of a pin's head to that of a pea. In the diffuse red hepatization the air vesicles are filled with pus, epithelium, and fibrin. The white nodules correspond to sections of bronchi with zones of peri-bronchitic pneumonia. These bronchi are of small size, they contain pus, their walls are thickened and infiltrated with cells, and they may be dilated.

In the peri-bronchitic zones of pneumonia the walls of the vesicles are thickened and infiltrated with cells, but the bloodvessels remain pervious and can be injected. The cavities of the vesicles are filled not with pus and fibrin alone, but also with a basement substance of homogeneous or finely fibrillated character in which are embedded polygonal, round, and fusiform cells.

3. *The complicating broncho-pneumonia of adults.* It is not uncommon for some of the infectious diseases, and some of the lesions of the brain and spinal cord to be accompanied by the development of this form of inflammation of the lung.

In typhoid fever we sometimes find a broncho-pneumonia exactly resembling the same lesion as it ordinarily occurs in children.

In pyæmia the inflammation is of the same kind, but is apt to be less extensive, involving only part of one or both lungs.

With lesions of the brain and spinal cord the changes are the same as with pyæmia.

4. *With phthisis*, both acute and chronic, broncho-pneumonia often forms an important part of the morbid changes in the lungs, but yet it is never the primary or the only lesion. It is only one of a number of pathological changes which go to make up the complex whole of pulmonary phthisis.

From what has been said, then, I would draw the following conclusions:

There is a form of inflammation of the lung which may properly be called broncho-pneumonia.

In children it is the most frequent form of pneumonia, in adults it is less common.

It differs from bronchitis and from lobar pneumonia in that the inflammation effects changes in the *walls* of the bronchi and of the air vesicles, and this peculiar interstitial character of the process exists from the very outset.

The inflammation extends from the bronchi, not to the group of air vesicles into which they lead, but directly outwards to the vesicles which surround the inflamed bronchi, and in these vesicles the walls are changed.

The interstitial character of the inflammation is its most important feature. It accounts for the severity of the symptoms, the frequent long continuance of the consolidation, the dilatation of the bronchi, and for the tendency of the broncho-pneumonia to assume a chronic character.

The complicating tubercular inflammation of the bronchial glands may give rise later to general tuberculosis.

Broncho-pneumonia is not a form of phthisis; it is doubtful if it is ever directly followed by phthisis; but it constitutes a part, and often an important one, of the lesions which constitute phthisis.

I have endeavored to describe in a somewhat incomplete way the characteristic symptoms and lesions of an ordinary disease. I am well aware that I have described conditions which are familiar, and that nothing which I have said has not been said before.

But the very common occurrence of this form of inflammation of the lung renders it all the more important. The varying character of the lesions has confused their essential and their accidental characters, and I think it is worthy of consideration whether the views, which I have advanced concerning the pathology of the disease, are not the true ones, namely, that the inflammation is essentially and from the outset an interstitial one, more or less complicated by other conditions.

LARGE DOSES OF QUININE IN THE TREATMENT OF TYPHOID FEVER.

BY GEORGE S. HULL, M.D.,
OF CHAMBERSBURG, PA.

IN reading recent articles in the journals upon the treatment of typhoid fever, I notice that, while most of the writers speak of and recommend the use of quinine in large doses—following closely the German authorities—they either neglect giving their own experience in the matter or frankly state that they have not addicted themselves to the heroic use of this drug. The main object, therefore, of this paper is to report, as concisely as possible, the results obtained and bits of experience acquired in the treatment of a number of cases of typhoid, in which the febrile movement was marked, the temperature reaching 103° and 105° early. I am aware that my number of cases—twenty-nine—is comparatively small, but it represents only the severe ones taken from the whole number that has fallen to my lot in private practice since beginning to use the quinine treatment—four years ago.

The mild cases received but little treatment beyond carefully regulated diet and perfect rest, no mortality resulting. Of the twenty-nine cases, two proved fatal. The one was a boy of seventeen years, who had worked at hard labor till almost exhausted with the diarrhœa. When first seen he was about in the middle of the second week of the disease, with an evening temperature of 105°. The intestinal trouble proved intractable, and progressed to a fatal issue.[1] The other, a girl of nineteen years, was being treated for secondary syphilis at the time she was taken with the fever. She went through a very severe attack and was convalescing when pneumonia set in. As she was recovering from the pneumonia, syphilitic ulceration of the larynx supervened, and proved fatal, dyspnœa being the main exhausting cause.

Did space permit, an exhibition of the temperature sheets of all the cases would be the best method of showing the almost marvellous results frequently obtained from the quinine treatment. It must suffice, however, to state briefly the main features of the cases and what action the quinine had upon the temperature, etc.

In none of these cases was malaria a factor—the first large dose of quinine generally shows whether or not there be a malarial element in the case.

In many of the cases the temperature had reached 103° or 105° before being called to attend; and in all of them it rose above 103½° before I felt the necessity of resorting to such active treatment. The doses ranged from 18 grains up to 45 grains—no case demanding more than the latter amount to obtain the desired result. In but one case was it necessary to use it in the form of suppositories, and in no instance was the hypodermatic method required. Such large doses of the crude drug, or dissolved in acids and flavored, are apt to be rejected by the stomach, while the same amount given in pills (12 to 20), in a short space of time, is apt to alarm the patient and household generally; hence it becomes necessary to prepare it in the most agreeable and compact form, and one the least likely to nauseate or to irritate the intestinal mucous membrane. The mixture used the most frequently, and which caused the least complaint, was the following:

℞.—Quiniæ sulphatis,	gr. xv–xlv.
Pulv. glycyr. ext.,	℈i–℈ij.
Syr. simplicis,	℥ss.
Aq.,	q. s. ad ℥j.—M.

This was given at one dose; or in three doses, fifteen minutes apart, especially when the larger doses were used. When patients tired of this, ext. glycyr. rad. fld. was substituted; it alters the color and somewhat the taste, still being almost equal to the former in disguising the bitterness.[1] When these were refused, it was rubbed into a mass with glycerine (hydrochloric acid being added to increase solubility, and especially to reduce the bulk) and enclosed in gelatine capsules. In the one case in which it was given in the shape of suppositories (ʒj with gr. ij pulv. opii, in two suppositories), it reduced the temperature satisfactorily, though not so promptly as when administered by the mouth. The hypodermatic method, being yet in bad repute as regards quinine, was not resorted to.

Morphia, in small doses, was frequently added when there was much restlessness or insomnia; it also seemed to heighten the action of the quinia, as has been claimed of this combination.

Where the stomach was very irritable, the following, with rare exception, was retained:

℞.—Quiniæ sulphatis,	gr. xv–xlv.
Pulv. glycr. ext.,	℈j–℈ij.
Bismuthi subnit.,	℈j–ʒj.
Liq. morph. sulphatis,	ʒss–ʒjss.
Aq.,	q. s. ad ℥j.—M.

Sig.—At one dose.

Much importance seemed to attach to the time of administration; a dose of 18 to 24 grains early in the morning, when the temperature was 103°, generally reduced it two or three degrees, though in some cases it merely kept it from rising, which condition held for thirty-six to forty-eight hours, when the dose would have to be repeated and increased. 30 to 40 grains given at the same time very frequently reduced it to normal, and in some cases below, from which it rose slowly, necessitating a repetition, with generally an increase in the dose, in forty-eight hours. In order to realize the maximum effect from a minimum dose, it is well to give it at night—to kick, as it were, the temperature while it is falling—and in most instances, where the evening temperature was above 104°, this method was pursued. In one case an evening temperature of 106½°, on about the twelfth day (the patient not having had quinine treatment previous to my seeing him), was reduced by a 40 grain dose to 98° the next morning; in forty-eight hours it stood at 105°, and the dose was repeated with a similar result; afterwards smaller doses met the requirements. It has seemed to me, in more than one instance, that the nearer the crisis was at hand, the less quinia was needed to get a corresponding fall in temperature; that large doses at this time were apt to act almost violently.

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[1] This boy was one of four very severe cases occurring in the family of a sexton, who resided within the cemetery limit. There were seven cases in all, embracing the whole family, three being of a milder type and not requiring the quinine treatment. It is interesting to note the position of burying-ground proper, of house, spring, etc. On the east the cemetery is bordered by a creek; on the west by a country road. From the creek the ground rises rather abruptly (about 15 feet), and then gently rises to about midway between creek and road; from this point it slopes toward road and to south. The ground is slaty on the surface and clayey beneath. About 70 feet from creek and 400 feet from top of slope stands the house, and midway between it and creek is a deep spring from which the family carried their water. The main burying-ground is on the western slope, but lately, on account of overcrowding, they have been interring on the eastern slope, toward the house. There seemed to be no doubt that the spring was infected and caused the disease, as not long before this endemic in the sexton's family there were frequent and very copious rains, penetrating deeply. One of the sons, who lived a distance from the house, but came home in the evenings to assist in the work, was one of the worst cases.

[1] Lately I have been using the *compound fl. ext. of liquorice* (Wyeth's), which is even more satisfactory.

So certainly did the desired effect follow a large dose of quinia, that, from my own slight experience, even were there no weightier, I would feel it not making too bold an assertion to say that failure to reduce the temperature in typhoid by this drug when given in the proper combination, and at the proper time, is a confession of *timidity* in its use. Sometimes it is reserved till all other means have proved futile and the patient is exhausted, when it is given as a forlorn hope—even then it will occasionally "work a miracle" and save the patient. Two of the cases seem to have demonstrated this fact. One, a married lady, thirty-five years of age, was near the end of the third week when first seen. She was emaciated in the extreme, with low, muttering delirium, from which she could not be aroused, dry and crusted tongue, bowels passing unconsciously and frequently, temperature in the morning 104°, pulse 130, with first sound of heart almost inaudible—in fact, so exhausted that death seemed a near certainty. She had been treated mainly with small, repeated doses of quinia and mild stimulants. Carbonate of ammonia and whiskey were given her as freely as possible, and, when she began to respond, a 20 grain dose of quinia administered. By night (seven hours later) her temperature was 102°; in the morning 100°, with patient partly conscious. It remained at this point till near evening, when it began rising; she was then given 15 grains, and by morning it had fallen below normal. Convalescence followed.

The other patient, a girl of sixteen years, who came under my care at the beginning of the disease, and who was treated by the ordinary methods, was the first case in which I resorted to the large doses of quinia. About the middle of her third week she had reached such an exhausted condition that her case seemed hopeless. On the morning of the eighteenth day her temperature was 105° (had been 105½° the night previous), with a feeble pulse running at 165 (she was of a marked nervous temperament and had a high pulse-rate from the beginning). She was partly conscious. As a last resort, and not without a good deal of trepidation, especially on account of the feeble heart, I gave her 24 grains of quinia at one dose. By night her temperature had fallen to 100°; through the night she lay as though held in a vice, unable to move or speak, staring wildly, though conscious, and so deaf that she could scarcely hear one shouting in her ear. In the morning her temperature was 96°; surface cold and clammy. I felt guilty of having overdone the matter. But under gentle stimulation her temperature rose slowly, and convalescence set in and was rapid and complete.

In these two cases, and others in which the action of the heart was very feeble, the quinia seemed not to embarrass it; on the contrary, the heart gained in strength as the fever fell. In one case, a girl of eight years, in which there was a loud systolic murmur, an 18 grain dose was given to combat a temperature of 105½°, which rose suddenly, a few days after the crisis, and was accompanied by pain and stiffness in the joints, with tumultuous, though not very painful, action of the heart. The temperature rapidly fell, and did not rise again. The girl made a perfect recovery, no cardiac murmur being noticeable at last examination.

Concerning its influence upon the diarrhœa, which seems to be dreaded by so many, I noticed no aggravation in any of the cases. However, when the diarrhœa was profuse, bismuth subnitrate and morphia were added. In the fatal case from uncontrollable diarrhœa, I was particular to notice its action in this respect. When given every other night, sufficient was absorbed to reduce the temperature several degrees, and the diarrhœa was certainly not increased—rather moderated by the degree of quiet induced by the quinia and morphia. In one case, complicated with hemorrhage from the bowels, its full use was persisted in without aggravating the hemorrhage. In none of the cases could I pronounce it guilty of producing cystic trouble. In several cases there was slight, temporary irritability of the bladder, but in these cases turpentine was also being administered. I have seen the same amount of irritability in mild cases, in which the treatment was confined to small, repeated doses of aconite and careful nursing.

There is, however, one *so-called* objection to the quinia treatment: the *tinnitus*, producing temporary deafness. I have often considered this effect of the treatment a decided advantage; it has frequently shut out from the patients the noise and clamor of the street, and, still better, has prevented gossiping visitors and over-talkative nurses from annoying them.

Does the quinine treatment shorten the period of the fever? It has seemed to me to have no such effect; it merely "tides them over," and insures them a rapid convalescence. What, then, is the advantage gained by the heroic use of quinia? The same may be asked concerning the other methods of antipyretic treatment. Typhoid fever being a disease that, in spite of our present therapeutic knowledge, runs a certain and known course, we are of use only as we are skilful engineers. When the disease is of a mild type, and the physician not over-officious, the demands of the patient will be easily met, and time will bring convalescence. But when the virulence of the poison is such, or the resistance of the patient so feeble, that high temperature is the prime factor and the main exhausting cause, then must be used means sufficiently powerful to reduce the heat and prevent the rapid combustion of tissue, etc. At the risk of being thought too imaginative, I would liken the typhoid patient to a man compelled to go a long, though reasonable, distance in a specified time. If the man be strong, and the way smooth and unobstructed, let him alone, do not embarrass or frighten him, and he will reach the goal safely; but, if he be heavily handicapped, or the way be rough and hilly, he will need help. Let a friend go with him; and, although he cannot shorten the distance, let him take the weary traveller into his conveyance and carry him a day's journey every other or third day—that's just what quinine does for the typhoid patient. The great relief it so often brings to the sufferer, whose burning skin, restless body, and delirious mind of one day is changed under its influence to the comparative quiet and rest of the next, is a reality, and, as such, enables him to gather some strength for a renewal of his painful journey over the rough and treacherous pathway; and such given periods of rest and recuperation mean success to the poor traveller with his burdensome freight of bacilli.

In croupous pneumonia the quinia treatment proved even more successful than in typhoid, although but seven cases were severe enough to demand its use, no mortality resulting. The drug was administered in the same manner as in typhoid, and no ill-effect upon heart or bladder was observed. In one plethoric patient, with severe pain and active delirium, wet cupping (about eight ounces), over the seat of pain, brought relief immediately, but had no effect upon the temperature, which registered 105½°. A 24 grain dose of quinia brought the desired result, and but two repetitions were necessary.

In "childbed fevers" its action was very gratifying; a large dose, combined with morphia, given early, being sufficient in most cases to control the symptoms. The following case seems of more than ordinary interest on account of the violence of the onset and severity of the symptoms. The patient was a delicate primipara with a tuberculous history; she had a comparatively easy confinement, and rested well afterwards. On the evening of the second day a relation called upon her and told her some very distressing family news. She was very much shocked, and took a severe chill. I did not see her until the next morning, when I found her deathly pale, her face pinched and anxious, mind delirious. Her temperature in axilla was 105¾°, and pulse 125. The abdomen was but slightly swollen, and not tender save on firm pressure directly over womb. The lochia were suppressed, and there was considerable twitching of the muscles and severe pain in back and head. Quinia (grs. xx) and morphia (gr. ⅙) were given at 9 A. M.; at 4 P. M. temperature was 102°, pulse 104; 12 grains more of quinia were given. At 10 P. M. temperature had risen to 104°, and grs. xx were administered. The patient was soon so thoroughly cinchonized that she could not hear one shouting at her. The next morning her temperature registered 101°, pulse 76; she was now kept moderately under quinia, and made a good though tedious convalescence.

As an example of how the free use of quinia may arrest serious inflammation, the following case may be of interest: On the afternoon of March 12, 1883, Wm. S., a peddler, while entering a house a couple of miles from town, was shot with a revolver, the ball entering the left side between the eighth and ninth ribs. He was seen about four hours after the injury, having been brought to town in a wagon, and was then suffering profoundly from shock, being unable to speak, though perfectly conscious. A small hypodermatic injection of morphia (⅛ grain) was given, and whiskey and ammonia administered guardedly. It being clear that the ball had penetrated the parietes, no effort was made to probe deeply for it; the wound of entrance was sealed. The man was kept at absolute rest and upon small, frequently repeated quantities of liquid nourishment. He passed a comfortable night. His urine, taken by the catheter, was freely mixed with blood. There was slight tenderness over the bladder, more marked over the region of the left kidney. On the next day, March 13, his temperature in the morning was 98½°, pulse 84; at noon 101½°, pulse 104; evening 101°, pulse 106. Urine removed by the catheter was still bloody.

He was kept mildly under opiates, and given a mixture of tr. aconiti rad., sp. æth. nit., and liq. ammon. ac.

March 14. Morning temperature 101¾°, pulse 106. At noon it rose suddenly to 104½°, accompanied by severe pain and tenderness over abdomen. It was decided to give him at once quinia, grs. xxiv, with morphia, ⅙ gr., and tr. aconiti rad., gtt. iij. At 5 P. M. temperature was 103¾°; at 10 P. M. 101½°, and on the following morning 99°. He perspired freely through the day; water still contained some blood. In the evening he began to expectorate small quantities of bloody sputa; a smaller dose of quinia was given (grs. xij), and in the morning his temperature was 97°. His bowels were now moved by hydr. chlor. mit., gr. j, with pulv. ip. comp., gr. ij, given every two hours. The bloody expectoration ceased, and the urine assumed its natural color. He then progressed rapidly, the external wound healing without suppuration, and served out his sentence in the county jail. When seen last he was on the tramp, and in nowise inconvenienced by the encysted ball.

ERYTHROXYLON COCA IN THE THROAT.

BY J. SOLIS-COHEN, M.D.,

OF PHILADELPHIA.

PREPARATIONS of coca have long been used constitutionally in diseases of the throat, and a somewhat famous wine of coca has been pushed in the drug market for some years, with the endorsement, among others, of several throat specialists in Europe and in America. It is not improbable that the sense of comfort following its use, after prolonged vocal effort, may be due in part to the anæsthetic properties now attracting attention; and that a part of the relief it brought to the sense of fatigue in the Peruvian runners, was likewise due to this influence.

In the *Revue méd. francais et étrangerè,* p. 751, November 19, 1881, M. Du Cazal calls attention to the properties of tincture of coca to produce local anæsthesia of the pharynx; and since that time the fluid extract has been similarly recommended.[1]

For nearly three years a bottle of the fluid extract of coca has had its place among the small array of drugs kept for immediate topical use in my office practice, and has been frequently employed with success to obtund, for the time, hyperæsthesia of the mucous membrane of the pharynx and the top of the larynx; but no suspicion had been aroused that the anæsthetic qualities of the drug might be absolute.

On learning of the excellent results reported from touching the conjunctival mucous membrane with a solution of hydrochlorate of cocaine, I determined to try it upon the pharynx and larynx in selected test cases. In one instance, touching a limited area in the pharynx, after the manner prescribed for the conjunctiva, produced such anæsthesia that the patient declared that he did not feel the contact of a probe, while the contact remained as perceptible as ever, immediately around. In another instance, in which laryngoscopic inspection was difficult, on account of hypersensitiveness of the palate and pharynx, the local applications produced almost immediate tolerance of the laryngoscopic mirror. For purposes of laryngoscopy, therefore, this agent may prove of the greatest service. Whether it will produce anæsthesia of the larynx sufficient to facilitate intralaryngeal manipulations, is much more doubtful. Upon a lady, on three separate occasions, I applied as much as ten minims of a four per cent. solution, at a time, keeping the brush within the larynx for at least five seconds, and repeating the application twice, at intervals of five minutes. Although the patient stated that she was barely conscious of the presence of the probe I subsequently placed upon one of her vocal bands, the spasmodic, sphincter-like contractions of the laryngeal muscles shut the interior of the larynx out of view as completely as if no anesthetic had been used. In similar experiments upon the larynx of a gentleman, with a two per cent. solution on two days, and a four per cent. solution on two days, the manipulations on the last day having been performed by Dr. Major, of Montreal, there was not sufficient restraint in the sphincter-like closure to watch the progress of the terminal extremity of an intralaryngeal electrode. Both of these patients were accustomed to ordinary intralaryngeal manipulations, and, therefore, accustomed to the presence of instruments within the larynx; but in neither instance, nor on any occasion, was there evidence of a sufficient anæsthesia to prevent the spasmodic reaction normally consequent upon the introduction of a foreign body within the larynx.

The reports of successes in Vienna, which have not yet reached this country in detail, render it probable that good results are attainable by some special method of manipulation.

MEDICAL PROGRESS.

TREATMENT OF ABSCESS OF THE LIVER.—A few years ago M. Jules Rochard reported to the Académie de Médecine a method of healing abscesses of the liver by large and direct opening, combined with the Listerian antiseptic method. This operation consists, when the abscess is only suspected, without being diagnosticated, in using the needle of an aspirator. Then, if pus be found, the needle is used as a director along which a bistoury is carried, and the abscess is opened. The cavity is then injected with antiseptic solutions, and drained. About the same time, SURGEON-MAJOR OBERLIN, of the French Army, had occasion to treat several cases of abscess of the liver. He gives the history of three cases. The first case was aspirated with Potain's aspirator, a large amount of chocolate-colored pus drawn off, and the patient recovered.

The second case was that of a woman, thirty-six years of age; about f℥xviij of chocolate-colored pus were drawn off with Potain's aspirator. The patient then had an attack of intermittent fever, and the abscess partially refilled. A little more than f℥vj of pus was removed. About six weeks afterwards a third aspiration removed about f℥viij of pus. The fever continued, however, the patient got no better, and the abscess refilled. One week after the third aspiration the abscess was opened with a large trocar, the pus removed, and a caoutchouc tube introduced. A 1 to 40 solution of carbolic acid was then thrown into the cavity, and a Lister dressing applied after the injection had ceased to return clouded. The dressings were repeated daily for five days, when the first tube was replaced by a short one. The wound was completely cicatrized in a month.

M. OBERLIN believes that in using the aspirator it is well to make several punctures at intervals. He also states, what is not new, but worthy of further attention, that abscesses of the convexity of the liver cause pain in the right shoulder; but this is absent in cases of abscess of the left lobe or base.—*Archives de Médecine et de Pharm. Mil.*, October 1, 1884.

SPHYGMOGRAPHIC ANEURISMAL TRACINGS AS DIAGNOSTIC SIGNS.—In a note on this subject, DR. B. WARD RICHARDSON says:

In cases of doubtful aneurism of the great arteries in the cavities of the body, the sphygmograph comes into use with excellent effect. In order to apply it for this purpose, first take a reading from the radial pulse and fix that for comparison. Then place the sphygmograph firmly over the suspected pulsating part and take a reading there. Next compare the tracings. If the tracings correspond in indicating arterial stroke, and if there ought, naturally, to be no detectable pulsation at the suspected pulsating part, the evidence may be considered all but absolute that there is an aneurismal dilatation. If the pulsation were induced by a healthy artery pulsating beneath a tumor, or beneath an organ of the body—as the pancreas, liver, or stomach—the natural arterial tracing would not be educed; there would be nothing more than irregular up-and-down strokes.

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[1] Medical Record, April 7, 1883, p. 384.

In comparing the readings of the radial pulsations with those of an aneurism, the character rather than the largeness of the outlines must be taken into account. The outlines may correspond, and their sizes may correspond, and when this occurs the evidence is the more striking. But in matter of practice size is not of much moment. The outline is the thing to observe, and a distinctive difference may in some cases confirm the diagnosis. For example. I was consulted about a doubtful case of aneurism of the aorta, at the arch or at the innominate. The reading at the right radial pulse was very feeble but distinctive. By careful manipulation I obtained a perfectly corresponding pulse reading in the chest, at a point three inches above the right nipple in a line drawn from that nipple to the origin of the left sterno-cleido-mastoideus. But my pulse reading here was much larger than the reading at the radial. The systolic line was longer, the angle was more acute, the diastolic or descending line was longer, the aortic cleft more defined. The inference I drew from these observations was that there was an aneurismal dilatation in the ascending aorta, extending to the innominate and interfering with the force of the arterial stroke through the right subclavian and its branches, a diagnosis which has proved to be correct.

The grand point, however, which this mode of diagnosis settles is that it differentiates between an actual aneurism and an artery pulsating on a tumor. In the days of Harvey this point of diagnosis was once under practical discussion between Harvey himself and one of his contemporaries, and it has remained a difficulty up to the present time. I believe the difficulty is now well-nigh solved by the sphygmograph. Wherever there is a direct arterial pulsation a sphygmographic tracing can be obtained. Whenever the tracing gives the impulse stroke, the recoil, and the notch, an artery is directly writing the message.—*The Asclepiad*, October, 1884.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE FALLOPIAN TUBES.—In a paper on this subject, read before the International Medical Congress, in August, 1884, **MARTIN**, of Berlin, says that the diseases of the Fallopian tubes do not present the great difficulties of diagnosis described by writers generally.

It suffices, he says, to practise combined examination by the vagina and abdominal wall to recognize the tubes, and the recognition is quite easy when they are diseased. The tubes may be confounded with the round ligaments, or with a tumor developed in the broad ligaments.

Tumors of the Fallopian tubes occur in about six per cent. of women. The surgical treatment—extirpation—is very dangerous, and the prognosis is certainly worse than that of ovariotomy. Of 100 cases of ovariotomy he only lost 3 patients, whilst of 18 cases of salpingotomy, 5 had been fatal. Medical treatment should be resorted to before surgical interference.

SANGER reported that he had performed salpingotomy four times, with success. Simpson thought that an exploratory incision was always permissible.—*Annales de Gynécologie*, October, 1884.

EXCISION OF KIDNEY.—**MR. RICHARD DAVY** reports the case of a man, æt. 53 years, who had a tumor in the left groin, supposed to be a cyst involving the left kidney or ureter. He opened the patient's loin posteriorly, dissected down to the cyst-wall, laid hold of it with the lion forceps, opened it, and let out about sixteen fluidounces of dusky brown fluid; inserted his forefinger into the interior of the renal cyst, but could not feel any calculus. He removed the whole kidney by shelling it out, and ligatured separately the renal artery, vein, and ureter. Could not pass a probe down the ureter (left) to the bladder, as the probe impinged on a dense obstruction, and would not descend beyond about four inches. He next inserted a sponge, enveloped in oil-silk, into the chasm, and placed him in a special ward. The flaccid tumor measured seven by two and a half inches; it was the remnant of a kidney, no real kidney-structure being left, but only a huge partitioned fibro-cystic bag. The peritoneal cavity was, of course, not opened; and the suprarenal capsule was felt at the upper part of the gap, loosely connected. The patient was discharged two months after the operation, with the wound perfectly healed; and died five days afterwards of encephaloid carcinoma of the liver. —*British Med. Journal*, October 18, 1884.

TREATMENT OF MERCURIAL STOMATITIS.—**ZEISSL** recommends the following in cases of mercurial stomatitis:

℞.—Tincture of iodine, . . .	. f ʒj.
Hydrolat of canella, . . .	. f ℥iss.
Syrup of canella, . . .	. f ʒv.
Distilled water, . . .	*ad* f ℥viij.—M.

To rinse out the mouth in cases with profuse salivation. If the breath is fetid, the following may be used:

℞.—Chlorine water, ...	. f ʒijss.
Decoction of marshmallow,	. f ℥ixss.
Honey of rose, ...	. f ʒx.—M.

—*L'Union Méd.*, October 18, 1884.

TREPHINING IN MASTOID AND TYMPANIC DISEASE.—**DR. W. J. WHEELER**, of Dublin, at the conclusion of an article on this subject, says:

Of the 35 cases in which the trephine was used, 4 terminated fatally, while the result in the other cases has not been reported; in the total number of cases, the results of which are differently specified, 17 per cent. were fatal, and 21 per cent. successful. Buck has collected 37 cases of suppurative inflammation in which the cases were left to nature (expectant treatment); 34 were fatal. It will be readily seen from the foregoing that the operation of trephining for mastoid disease is a fairly successful one, and, on the other hand, that, from the expectant treatment in suppurative inflammation there is little to look forward to but a fatal result. That the operation should be practised early is a self-evident fact; it is useless when pyæmia, meningitis, or phlebitis of the sinuses has appeared, although the first cerebral manifestations should not intimidate the surgeon from operating, and I doubt not but that good service will be done toward the patient by his attendant who advises operation even where no bone disease existed, but when the discharge from the tympanum has lasted for *a lengthened period*, and has not yielded to other treatment, such as syringing and enlarging the opening of the membrana tympani if necessary. Setons and issues I believe to be of little use, for although only the mucous membrane may be engaged, yet we know that a blow on the mastoid process, a severe cold, a depressing illness, may cause disease to advance to the bone, pyæmia may ensue, or death by general cerebral irritation, without the formation of abscess. A well-accomplished operation will always give free vent to pus when existing, and prevent it passing to the brain through some of the numerous channels I have recorded, and will thus save the patient. I must deprecate the operation recommended by Dr. Bagroff—namely, the use of the gouge and galvano-cautery over the mastoid process; such procedure, as it appears to me, would be likely to set up irritation and inflammation. Unless, indeed, the suppuration is comparatively superficial, or discharging through a fistulous opening, I would not select to operate over the mastoid process; there one cannot remove the entire portion of the bone, on account of the proximity of the lateral sinus, and so cannot expose the dura mater, to do which I hold is very essential.

The site I would always select for operation, with the exceptions as above named, would be such as to place the lower border of the trephine on a level with the external auditory meatus, and anterior to a line dividing vertically the mastoid process. By adopting this course there will be no danger of wounding the lateral sinus, the tympanum and mastoid cells will be opened, giving full exit for discharge, the dura mater will be exposed, and should pus exist between it and the cranium, there will be ample freedom for its escape.—*Dublin Journal of Med. Sc.*, October, 1884.

PORRO OPERATION.—DR. LÉON DUMAS reports a case in which he performed the Porro operation on a woman, thirty years of age, for rachitic pelvis. The child was saved, but the mother died of peritonitis on the sixth day after the operation.—*Annales de Gynécol.*, October, 1884.

BULLET WOUND OF THE CEREBRAL HEMISPHERES; HEMIPLEGIA; RECOVERY.—MR. HERBERT PARSONS, of Monte Video, reports the case of a girl, æt. 13 years, who received a bullet wound through the mastoid process of the right temporal bone, and took a course inwards through the convolutions of the brain, with a slight downward direction. She fell down unconscious on receipt of the injury. One hour afterwards she had recovered complete consciousness, and conversed rationally. The pulse was 108, not very weak; no excitement. She vomited once. There were internal strabismus of the left eye, and complete loss of power over left leg and arm, but not loss of sensation. There was considerable hemorrhage from the seat of injury, which was situated just behind the right ear, but no protrusion of brain-substance externally, but it could be distinguished at the bottom of the wound, after stopping the blood-flow. She was lying on her left side, and, on introducing a bullet-probe into the wound, by its own weight it dropped down along the course of the ball until it was buried to the depth of six inches in the interior of the skull, and the end was in contact with some hard substance, as he thought, the internal surface of the opposite parietes of the skull, but possibly the bullet. The treatment he adopted was to fill up the orifice of the wound with iodoform, and over this pads of cotton-wool and lint. Cold water bandages were applied to the head, and a few doses of bromide of potassium were given to keep the nervous system from possible irritation.

The original dressing was left for several days, and when it came off the wound was closed; there was not more than a few drops of pus ever found, nor was there any inflammatory action in the surrounding pericranial tissue. She was in bed one week, on soup and milk diet with fruit; after that, she got up. There was never any fever or nervous disturbance beyond the simple fact of the hemiplegia. In one month she gained the use of her leg, and a few weeks after, of her arm. She is now perfectly well, and has not shown a sign of the injury since, though eighteen months have passed since the ball entered the head.—*British Med. Journal*, October 18, 1884.

THE COMPARATIVE ACTION OF THE DIFFERENT ALKALOIDS OF ACONITE ON THE HEART.—DR. A. TORSELLINI has recently made a series of experiments as to the action of the nitrates of aconitine, napelline, lycoctonine, and of aconitic acid on the heart of the frog and the toad. Roy's apparatus was used in the first cases, and Ranvier's cardiograph in the second. The results were as follows:

1. Nitrate of aconite caused, in the exsected heart a slight, in the removed heart strong diminution of the cardiac beat; and in the latter also a very slight and transitory lessening of the systolic elevation. In neither was the rhythm irregular.
2. Nitrate of napelline causes irregularity of the rhythm in each, lessens the systolic elevation, and causes no slowing of the heart-beats in the exsected heart, but an increased contraction of the unremoved heart.
3. Nitrate of lycoctonine slightly increases the beats of the exsected heart, increased the systolic elevation in both, and does not change the regularity of the heart's action in the least; on the contrary, it antagonizes the irregularity caused by napelline.
4. Aconitic acid acts on the heart in a decidedly paralyzing manner.

From these results it is seen that the different alkaloids of aconite not only act differently, but that some antagonize others, as regards the effects on the heart.—*Centralbl. für die gesammte Thérap.*, October, 1884.

THE SURGICAL NAIL.—M. MOTAIS, of Angers, presented to the French Association for the Advancement of Science a small instrument having the form of a finger-nail, and intended to cover the end of the finger and the nail. M. Motais has used it in removing axillary ganglia in cases of carcinoma of the breast; it may also be used instead of the rasp in operations on the periosteum, and for removing polypi from the uterus. It is shorter than the similar instrument used by Amussat, coming only to the extremity of the finger. —*Revue Méd. Franç. et Étrang.*, October 11, 1884.

EMPYEMA IN CHILDHOOD, AND ITS TREATMENT.—In an article on this subject, DR. V. SIMMONDS first considers the relative frequency of purulent pleuritic exudations in childhood. A large number of the cases are secondary, very frequently after scarlet fever, and frequently after lobar and lobular pneumonia, in consequence of disease of the bony walls of the thorax, from purulent degeneration of the lymphatic glands, traumatism, pyæmic processes and tuberculosis. Of 100 cases, 31 followed pneumonia, 14 scarlatina, 12 tuberculosis, 8 measles, 6 traumatism, 5 typhoid fever, 2 caries of bone, 2 pertussis and diphtheria each, and a perforating hydatid cyst of the liver; 26 cases were primary. Of 240 cases, 140 were males, 100 females; 130 were five years old and under; 82 between five and ten years of age; 38 between ten and fifteen. Of 175 cases, 103 were of the left side, 65 of the right, and 7 bilateral.

The prognosis depends very much on the primary affection, and on the state of the child's health. Uncomplicated cases in well-developed children give a good prognosis, especially in those cases in which an operation is not performed, and in cases of perforation of the lung, which does not always lead to pneumonia.

Aspiration, as deciding between infiltration and exudation, is a very valuable aid in the diagnosis, and pricking of the lung-substance under antiseptic precautions is not injurious. If purulent exudation be found operative, interference is positively indicated, provided perforation into the pulmonary substance has not taken place, and circumstances favorable to spontaneous cure are not present. Even after perforation an operation should be performed if the exudation does not decrease, or becomes putrid, or if the general state of the child does not improve.

Simple puncture and aspiration is the most uncertain method of operating. Of 48 children treated by this method, 10 recovered independently of the operation, the majority from perforation of the empyema into the bronchi; 20 required more than one operation and were then treated by other means; 16 recovered; 6 were not benefited, and 6 died. Simmonds recommends the following operation: A trocar of 6 mm. calibre is introduced, a Nélaton's catheter quickly pushed through it, the canula withdrawn and the catheter tied to a glass tube, the external end of which is connected with a rubber tube, and this carried into a vessel containing borax water.

After the deformity of the thorax is reduced the catheter is fixed, about six inches of it being in the pleural cavity. He has treated 8 cases by this method, with 6 recoveries on the 19th, 28th, 29th, 31st, 47th and 49th days. Of the 2 fatal cases 1 died of general tuberculosis, the other, a weak six-months' old child, of broncho-pneumonia. Simmonds always aspirates in the anterior or middle axillary line, in the fifth or sixth intercostal space.—*Centralbl. f. d. gesammte Therapie*, September, 1884.

MORTIFICATION AND SEPARATION OF THE BOWEL IN STRANGULATED HERNIA; RECOVERY.—DR. JAMES V. LEWIS, of Indiana, reports the case of a man, æt. 51 years, who had a strangulated hernia, and had been vomiting stercoraceous matter for several days. The case was apparently beyond relief, either by taxis or the knife, and the only course left was to make an artificial anus.

He incised the skin only, when there exuded about two ounces of black, frothy, stercoraceous matter, containing small particles of undigested food and detached portions of omentum. This being cleared away, the bowel on examination proved to be a portion of the small intestine, most probably of the ileum, gangrenous and perforated in several places in the loop, which was about three inches in length, covered above by a small portion of the omentum also gangrenous and sloughing. A careful examination of the parts the following day showed the entire and complete separation of the gut, the ragged ends of the separated bowel remaining in the sac, held there by adhesions, as proved from the fact that an attempt to withdraw either portion was wholly futile. About two hours after the opening of the sac, and escape of the accumulated matter, there was a free evacuation of the bowels—the first for five or six days, both through the artificial opening and per rectum.

The dead portions of the gut, omentum, and integument were now removed as nearly as possible, and the cavity filled with lint saturated in a solution of glycerine and carbolic acid, one part of the latter to forty of the former, and the patient treated with the view of establishing an artificial anus. In two weeks all the gangrenous portions of the omentum, bowel, and superficial tissues had sloughed off and been removed, leaving a large cavity formerly occupied by omentum and bowel, the walls of which were to all appearances perfectly healthy, as extensive granulations had been thrown out, especially on the tegumentary portion. He now began slowly to close the opening by pressure and by approximating the edges with the aid of adhesive plaster, and from this time on very little passed through the opening. The patient is now entirely well.—*Columbus Med. Journ.*, October, 1884.

PERMANENT CORROSIVE SUBLIMATE SOLUTION.—MR. JOSEPH BULFIN, in a note to the *Medical Times and Gazette* of November 1st, says: I have for some time been engaged in experiments and trials of various antiseptics, carbolic acid, eucalyptus, thymol, and iodoform, and since reading your article on Sir Joseph Lister's address, have made some on the following, which I think would be worth a trial. The modification which I would venture to propose is as follows: Corrosive sublimate, ʒij; white of egg, ℥vj: Barff's boroglyceride, ℥xii; distilled water, ℥cxxv. M. The strength of the corrosive sublimate in this solution will be nearly 1 to 500. As it would be almost impossible to add the precise quantity of albumen to render the bichloride of mercury unirritating and safe, it is desirable to add an excess of albumen; but an excess of albumen on the other hand, if allowed to decompose, would be objectionable in the extreme, to obviate which I suggest the introduction of boroglyceride which, without in any way interfering with the action of albumen, whether used from blood serum or white of egg, will guard against the products of decomposition from the use of an excessive amount. The proportion of mercury used in the compound may be increased or diminished as occasion may require, and all are non-volatile. Charpie, cotton-wool, or oakum saturated in such a solution would, in my opinion, form one of the best antiseptic dressings that I have yet seen, and for the chief part of this I am indebted to Sir Joseph Lister, my only contribution being the introduction of boroglyceride.—*Med. Times and Gazette*, November 1, 1884.

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CORROSIVE SUBLIMATE AS A SURGICAL DRESSING.

WITH the exception of iodoform, corrosive sublimate has almost entirely supplanted all other antiseptic agents in Continental Europe and this country, and if any one desires to dispel any doubts that he may entertain as to its efficacy and safety he need only study a paper published by Bruns, of Tübingen, in the *Archiv für klinische Chirurgie*, Bd. xxxi. Heft 1, and a paper read by Schede, of Hamburg, at the Copenhagen Congress, in which the astonishing results obtained, respectively, in 557 cases of operation and accidental wounds and 3700 major operations treated with sublimate dressings, are fully recorded.

Iodoform is not a germicide in the strict acceptation of that term, but it furnishes a soil unfavorable to the development and growth of schizomycetes, and in this way acts as a powerful preventive of putrefaction. Employed in the form of gauze of a strength varying from thirty to fifty per cent., it finds its most successful application in operations upon the mucous cavities, as the mouth, nares, pharynx, vagina, and rectum, and dispenses with the necessity for drainage. In all of these localities the wound, filled with the gauze, which may remain for from six to ten days, pursues, as a rule, a painless, aseptic course, there being little suppuration and no fever In some cases, frequent pulse, nausea, vomiting, and unrest indicate intoxication. If these symptoms persist or increase, a weaker gauze must be used, or another antiseptic dressing be substituted. Although not so potent an agent as the sublimate, iodoform is a valuable antiseptic in operations upon the mucous cavities, its good effects having been abundantly attested by the experiences of Mosetig, of Vienna, Küster, of Berlin, and Mikulicz, of Kracow, in many severe operations, as extirpation of the tongue, the jaws, the pharynx, œsophagus, larynx, rectum, and uterus.

By far the surest, most manageable, cheapest, most readily prepared, and, for these reasons, the most generally applicable of all antiseptic dressings is that made with corrosive chloride of mercury; and although we have to regret the fatal termination of one of his cases from septicæmia, we are glad that SIR JOSEPH LISTER has recently met with several imperfect results under the eucalyptus gauze, because his mishaps have demonstrated to him the great superiority of the sublimate, the good effects of which will doubtless soon be shown by its general adoption by British surgeons.

In an address delivered at the Medical Society of London, which may be found in the *Lancet* and the *British Medical Journal* for October 25, Sir Joseph points out the disadvantages of such volatile antiseptics as carbolic acid and eucalyptus oil. Unless carefully prepared, gauze containing either of these agents is liable to be deficient in the proper quantity, so that we are at the mercy of the manufacturer. Then, too, unless preserved in secure tins, its quality is soon impaired by evaporation, and the longer the gauze is kept upon the body, the less efficacious does it become. For these reasons, he has been busying himself in experimenting with corrosive sublimate, his aim having been to substitute for the volatile germicides a fixed one, which will be as effectual at the end of several weeks as it is when first applied, provided it is not soaked with the discharge.

Without going over the entire ground traversed by Sir Joseph, or reproducing his accurate observations and experiments, suffice it to say that he has succeeded in producing a non-irritating solution of the salt of a strength apparently far greater than has heretofore been employed, and, for this reason, far more potent, while, at the same time, so far as has been tested, perfectly safe. These qualities are secured by combining the sublimate with albumen, the inert coagulum of albuminate of mercury, first formed, being soluble in an excess of albumen. His source of the latter is the serum of horse's blood. In the majority of cases, a sero-sublimate gauze, made with 1 part of sublimate to 50 parts of serum, caused no local disturbance whatever, and, in his own person, a 1 to 30 solution, fixed to his arm for six hours, was unirritant, thereby showing that the combination deprives the sublimate of its irritating properties. The 1 to 100 gauze is said to be thoroughly trustworthy, and, therefore, best fitted for general use.

To one accustomed to using a 1 to 500 or 1 to 1000 gauze made from the watery solution, the one per cent. gauze recommended by Sir Joseph may seem to be unnecessarily strong, but it should be remembered that the albumen mitigates the action of the mercury, and that when we employ a highly absorbent dressing, a larger proportion of the sublimate must be incorporated with it. Thus, cotton-wool will take up ten times its weight of a serous discharge. Hence, when saturated with the discharge, the sublimate is diluted ten times, and we believe that cheese-cloth absorbs three times its weight, sawdust four times its weight, and pine wood-wool ten times its weight of fluid. It will thus be seen that, being so much diluted, any of these substances should be treated with a stronger sero-sublimate solution than an ordinary watery solution. Hence, as Sir Joseph employs the one per cent. solution to prepare ordinary gauze, stronger solutions should be used if cotton-wool and wood-wool be the textures of the dressing.

Whether this gauze will stand the test as regards safety must be determined by a more extended experience than that to which it has as yet been subjected. Be this as it may, we fear that it will never come into general use either in hospital or private practice, simply from the difficulty which must attend obtaining the serum. Sir Joseph tells us that we may procure it from a horse-slaughterer, and that some gallons may be obtained from a single animal. If there be a single establishment for slaughtering horses in this city, we are not aware of its locality, and we have made not a few inquiries on this point. The serum of the blood of steers evidently will not answer, as we are informed that it is mixed with corpuscles, which are very rich in proteid substances, and which interfere materially with the antiseptic action of the sublimate.

In his address as well as in a paper read some months ago by Sir Joseph Lister, in regard to the use of antiseptics in army practice, we fail to find any mention of a most important point in the preparation of sublimate gauze and solutions, which is well known on this side of the water. Unless some means be taken to prevent it, the bichloride will be converted into calomel. This may be effectually obviated by adding to the solution pure chloride of sodium in the proportion of five grains to one of the sublimate. Gauze kept for any time, unless so protected, will become inefficacious.

It may be stated that in this city sublimate gauze is covered with purified sublimate jute as an outer dressing. This retails at thirty-five cents a pound, so that it has been found to be a rather expensive article in hospital practice. A far better material, because it is more absorbent, more elastic, and much cheaper, costing only fifteen cents a pound, is the wood-wool, or the prepared cones and needles of the pine, so extensively used by Esmarch and other German surgeons. For the information of our readers, from whom we receive not a few letters asking information on antiseptic dressings, we may state that this article is prepared by C. Am Ende, of Hoboken, and that it may be obtained in this city from Mr. Snowden, instrument maker, No. 7 South 11th Street,

PAIN IN CHILDBIRTH.

Parturition has the sad preëminence among physiological functions of being attended with physical suffering; the absence of such suffering is altogether exceptional, and usually pain marks the beginning, the progress, and the end of the process, in some cases this pain being so severe that the reason is for the time lost, or fatal exhaustion results.

There is general agreement as to the immediate causes of the suffering in childbirth, but opinions differ as to why this suffering occurs. Nevertheless, the question is often asked. The answer usually given is the one found in the Bible; it was the penalty for disobedience inflicted first upon her who was called the mother of all living—"In sorrow thou shalt bring forth children." We may still ask, Why is it? what good end does it subserve? Depaul has suggested that nature does not permit the joys of maternity to be easily obtained, but makes pain an almost invariable law. Yet to many a mother the birth of a child is a sorrow rather than a joy; such child may be the proclamation of her own dishonor and born to a heritage of shame, or it comes when she is already overburdened with care and struggling with poverty or disease.

Dr. Rome, in a recent number of the *Journal d'Accouchements*, presents several answers that have been given to the question. One of these is that the fœtus, having arrived at perfect intrauterine development, excites pains which become the determining cause of expulsive contractions. But anyone who has observed the progress of a single labor knows that a pain and a contraction of the uterus are not synonymes, for the latter begins before the former is felt, and continues after it ceases.

The suffering is said to increase maternal love; but a woman may give birth while she is under the influence of an anæsthetic, and her love for her offspring is not in the least lessened because she has escaped suffering. Yet we admit it is a general rule that an object is enhanced in value by the difficulty, the trials, the suffering endured in its attainment. The most gifted poetess of the century, if not of all ages, who, knowing from her own experience the agony of childbirth, has so graphically described it,

> "In the hour
> When the vail of the body we feel
> Rent round us, while torments reveal
> The motherhood's advent in power."

certainly seemed to regard maternal love as made stronger by the suffering of childbirth.

Another answer given is that the suffering prepares woman for her life of toil, of consecration, and of abnegation which follows the advent and bringing up of the new being. This is not at all satisfactory, for a few hours' suffering can by no means be the sole factor in producing such important and long-lasting results. Again, it is said, pains are the corrective of vice. The number of women whose virtue is preserved by their fear of suffering in childbirth is infinitely small, and, if that virtue is saved by the suffering of all those whose children are born in wedlock, the price is far too great.

Dr. Rome finally suggests the following explanation, which certainly is ingenious, if not conclusive: Wherever nature has an important act to accomplish she takes the most vigilant care, the most jealous precautions, to preserve her work. She desires the preservation of the species, and hence the reason for the pains of childbirth. Imagine, for an instant, if childbirth could occur without *bruit*, without noise, and without phenomena which would attract attention, what would be the result. Simply that the half of infants would silently disappear—no noise, no alarm; the same mystery which presided at their advent would preside at their departure.

A NEW AID IN THE DIAGNOSIS OF RENAL DISEASES.

DR. JULIUS WOLFF has called attention, in the *Deutsche med. Wochenschrift* for September 25, to what seems likely to be a valuable aid in the detection of renal disease, which, notwithstanding the improvement in our means of its detection, is still often recognized for the first time on the post-mortem table.

Several observers have noted that substances usually separated from the blood with great promptness by the healthy kidney, either do not appear at all in the urine or are found in much less quantity and less promptly, when the kidneys are diseased. Thus Bouchard discovered that in two cases of mercurial poisoning with renal disease the amount of mercury separated by the diseased kidneys was considerably less than in health. Hahn showed that certain odorous substances, as turpentine, which appear promptly in the urine in health failed to appear when the kidneys were diseased; and Rayer, Cortien, and De Beauvais observed that the characteristic odor of turpentine, asparagus, and the like was absent under similar circumstances. Chauvet also experimented with quinine, bromide and iodide of potassium, mercury, and salicylic acid, and found delay in the appearance and diminution in the quantity excreted, especially in the case of iodide of potassium. That these results are, however, not invariable was shown by Duckworth, Strauss, and Chauvet, who found that the odor of turpentine continued in Bright's disease.

Wolff observed that in the case of iodide of potassium there was a direct reversal in the quantity of the salt separated by the salivary glands and the kidneys. When a healthy person takes three grains of iodide of potassium, sixteen hours later a much larger quantity will be secreted by the kidneys than by the salivary glands. This may be proven by adding a drop of fuming nitric acid to starch-paper saturated with some of the urine, when the paper will be found to be much more vividly blue than starch-paper saturated with saliva and similarly treated. In renal diseases the reverse occurs, more iodine being excreted by the salivary glands than by the kidneys, while sometimes none at all is eliminated by the latter organs. So, too, the period for which the excretion is maintained is prolonged. In health, after the administration of three grains of the iodide, it continues to appear in the urine and saliva for from half a day to one and a half, while in renal disease it may continue to appear in the saliva for seven and a half days. This period is much longer than in those diseases of the stomach in which, in consequence of delayed absorption, excretion is prolonged, both by the salivary glands and kidneys, although the reversal characteristic of renal diseases does not exist.

This reversal of the natural order of iodine excretion—that is, the arrest of secretion of iodine by the kidneys with or without the simultaneously prolonged secretion by the salivary glands—occurs in cases of acute and chronic parenchymatous nephritis, in amyloid degeneration of the kidney, hemorrhagic nephritis, renal tumors, as sarcoma and in contracted kidney. This symptom proceeds *pari passu* with the albuminuria, so that from it may even be inferred the amount of albumen discharged. On the other hand, it is important to observe that where albuminuria is wanting, as is sometimes the case in contracted kidney, the defective iodine excretion remains, and becomes on this account a more valuable symptom. Wolff also refers to a case of highly fatty kidney with cirrhosis of the liver, as revealed by the autopsy, in which this symptom was markedly present, although there was absolutely no albuminuria during life. On the other hand, cases of renal disease do occur in which this arrest of iodine excretion is absent, but it is at least as unusual as the occasional absence of albuminuria in the same disease. Finally, the presence of pus in the urine from cystitis or pyelitis does not interfere with the availability of the symptom.

In explanation of this defective excretion, it is possible either that the iodine may unite itself with the renal epithelium, from which it is again reabsorbed and secreted with the saliva, accounting thus for the larger quantity and longer presence of the iodine in the saliva, or it may not be taken up at all by the renal epithelium. The former might occur where a minimum amount of iodine appears in the urine, and the latter where none at all is present.

In the preparation of the starch-paper, which may be ordinary filtering paper dipped in a solution of starch and dried, care must be taken to protect it from the action of vapor of iodine, which may impregnate it, and thus give rise to error in the application of the test. The papers thus prepared should be packed away for use protected from the atmosphere. Care should also be taken not to test the saliva immediately after a meal, as the iodine sometimes escapes detection on account of dilution or its mechanical removal with the ingesta.

That these observations of Wolff are likely to be of great practical value we have already intimated. May they not also explain a fact which has surprised and puzzled all who have had to do with the therapeutics of Bright's disease, and especially of the contracted kidney? Reasonable as it seems that the latter form of disease ought to be benefited by the iodide of potassium, we are aware of no observations which go to prove that it is ever of any value whatever. In a not inconsiderable experience in the treatment of this affection, in which iodide of potassium has been freely used, we are unable to point to any results which go to show that it is at all useful in arresting interstitial hyperplasia.

THE LOWER UTERINE SEGMENT.

OBSTETRICIANS frequently speak of the lower uterine segment, but they are far from agreeing as to what this segment is. These differences of opinion are strikingly presented by PROF. LAHS, in a recent number of the *Archiv für Gynäkologie*, in which he devote sseveral pages to answering the question, What is the under uterine segment? Lahs teaches that this segment is that part of the uterus which in the latter period of pregnancy and at the beginning of labor is situated below the superior strait; in other words, the pelvic inlet marks its superior boundary. Its lower boundary is the external os uteri, and thus this segment includes the cervical canal and the ring of Müller.

Those who are familiar with the diagram which Dr. Robert Barnes has given, expressing his theory of placenta prævia, will see that this definition, so far as the upper limit of this segment is concerned, corresponds very nearly with that presented by him of the cervical zone, the other two zones being the fundal and the equatorial. Practically, it seems to us that the lower uterine segment is all that part of the uterus which in the latter months of pregnancy or in labor must be developed into a cylindrical canal for the transmission of the fœtus.

Lahs states that the terms cervix and cervical canal of the uterus ought to be cast aside in referring to women advanced in pregnancy and those in labor, since anatomical studies of these parts are yet incomplete.

INJUSTICE TO DR. EMMET.

DR. EUSTACHE contributes an elaborate article to the *Archives de Tocologie* for September upon Emmet's operation. In the course of the article he does injustice to Dr. Emmet by attributing to him the performance of the operation with indications which he would be far from accepting. Thus he uses the following language: "For Emmet and his numerous adepts in America the question admits no doubts. If the cervix is torn, this tear is the cause of all the uterine troubles the woman has in a very large number of cases. Cervical ulcerations, uterine engorgement, induration and shortening of the ligaments, leucorrhœa, lumbar and hypogastric pains, everything, in a word, has its point of departure in a laceration of the cervix; these different morbid phenomena cannot disappear until the rent is cured by a plastic operation."

Probably Dr. Emmet's last published utterance upon the subject was made a few weeks since in a letter to Dr. Joseph Taber Johnson, of Washington, found in the *Journal of the American Medical Association*, in which he speaks very necessarily and justly, we think, of "the general abuse into which the practice of the operation has fallen." He then says, "Everybody is performing it, and very few are doing it with any purpose except to close a fissure. The operation should never be done without there are marked symptoms calling for it."

This extract shows that Eustache has done great injustice to our countryman in regard to the indications for the operation in question; and we might add that those American gynecologists who have given the most careful and conscientious study to the subject are quite as conservative as is Dr. Emmet.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, October 28, 1884.

THE PRESIDENT, DR. ROBERT F. WEIR,
IN THE CHAIR.

DEFORMITY OF THE HANDS FROM CICATRICIAL CONTRACTIONS, FOLLOWING EXTENSIVE BURNS.

DR. A. C. POST presented a patient under treatment for complicated deformities of the hands from burns, which were inflicted nearly two years ago. The patient was a young woman, who had attempted to wash with benzine, by gaslight, long kid-gloves which were on her hands and forearms. The benzine took fire, and the forearms and hands were very severely burned. She came under Dr. Post's care within a few weeks after the injury, but it was a long time before the burns were sufficiently healed to enable him to take any active measures to correct the deformities which they had occasioned. Within the last year a series of operations had been performed chiefly to overcome the forced flexion of the fingers at the articulations between the first and second, and second and third phalanges, and these operations had been attended by a gratifying measure of success. The last operation was performed nearly seven weeks ago. It was designed to overcome an exaggerated extension or backward flexion at the metacarpo-phalangeal articulations. It consisted in numerous oblique incisions across the back of the hands and fingers, extending through the whole thickness of the cicatricial tissue, and dividing it into small rhomboidal segments. The fingers were then forced into a bent position nearly at right angles, and held in that position by narrow splints of malleable iron, one for each finger, applied to the palmar surface of the finger, hand, and forearm, and held in place by strips of adhesive plaster and roller bandages. Before the splints were applied, the wounds were washed with a solution of mercuric bichloride, and dusted with subnitrate of bismuth. The wounds were healed within twelve days from the time of the operation. The dressings have been repeated three times a week, passive motion being made freely at each dressing. For the last three weeks the splints have been left off for half a day before each dressing, and active and passive movements have been freely resorted to, the backward flexion of the phalanges has been entirely overcome, and the patient is regaining the use of the fingers. Dr. Post made the remark that in the division of cicatricial bands the wounds healed more rapidly, and with less irritation when a large number of incisions is made, than when the incisions are less numerous, and with wider intervals between them.

HYPERPLASTIC FOLLICULAR GOITRE.

DR. A. G. GERSTER presented a patient, a female, twenty-four years of age, a native of Bohemia, whose goitre cannot be said to be endemic, from whom twenty days ago he removed the right half of the thyroid gland. The patient said that she had had the goitre since her childhood, and also that about ten years ago she had some exophthalmos, and suffered somewhat from palpitation of the heart. About one year ago the goitre began to grow rapidly and was still growing and extended upwards and backwards along the course of the sterno-cleido-mastoid muscle, its length in this direction measuring three and a half inches. She also began to suffer from dyspnœa, especially when going up stairs or walking rapidly, and desired the removal of the tumor.

Puncture being performed, no liquid was found. Examination of the growth after its removal revealed that fluctuation was due to gelatinous deposits in the tumor.

It might be asked why he did not resort to other methods of treatment before performing extirpation. The chief reason was that he felt at the lower portion of the tumor two distinct nodules, probably calcareous in character, and subsequent examination showed that the assumption was correct.

The method of removal was by a flap incision, commencing at the middle of the anterior margin of the sterno-mastoid, carrying it around the circumference of the tumor and back to the lowest point of the border of the sterno-cleido-mastoid muscle. Having exposed the capsule, the enlarged body was dissected out in the usual manner by dividing such strands of tissue as had been grasped between the blades of the forceps. From seventy to seventy-five ligatures were required in dissecting out the entire tumor, and not more than an ounce of blood was lost during the operation. The tumor was very closely adherent to the anterior portion of the trachea and cricoid cartilage, and at that point dissection was most difficult. The wound was united by a number of deep sutures. The muscles which were cut were the sterno-hyoid, and a large portion of the sterno-cleido-mastoid on the right side, which were united with catgut sutures, and finally the flap was attached with two continuous sutures, and an ample dressing, consisting of some iodoform gauze and a bag of sublimate sawdust, was placed over the wound. Union by first intention took place, except at one point where an absorbable drainage-tube had been introduced, and where a few granulations remained. The tumor exhibited represented the right lobe of the thyroid gland. The left lobe was normal, and was allowed to remain.

DR. GERSTER thought the flap operation was preferable in these cases to the longitudinal incision; it gives more room than does a longitudinal incision.

DR. L. A. STIMSON presented specimens from a case of

SPONTANEOUS FRACTURE OF BOTH FEMORA.

The patient, a man fifty-one years of age, was admitted to Bellevue Hospital October 16, 1884, and died October 23d. He was a carpenter, and had always been robust and healthy until last winter, when he began to feel weak and suffer from aching pains in both thighs. The pain continuing, he ceased to work, but did not take to his bed. His strength diminished, he lost flesh. The day before admission, while walking across the room, he caught his toe in the oil-cloth, fell, and was unable to rise.

On admission, each femur was found to be broken at about the junction of the upper and middle third. He failed rapidly, without fever or complaint of pain, became dull, semi-unconscious, and died on the eighth day. Examination of the urine showed a specific gravity of 1004; no albumen or casts.

The autopsy revealed only a large stone in the pelvis of each kidney, which were shown, one weighing five ounces and six grains, the other one ounce four hundred and thirty-two grains.

The portions of the femur presented were those adjoining the fractures. All four pieces showed an advanced stage of osteoporosis, the compact tissue and the wall of the shaft had almost entirely given place to frail, spongy tissue. Scales of bone fell off at the touch, and one of the fragments had almost crumbled to pieces by the slight handling it had received since removal. The diameter of each bone was as great as usual, but the medullary canal was very large. Each canal was occupied by a dark blood clot nearly two inches long. Examination of the other bones was not allowed. A fragment of bone that weighed twenty-nine centigrammes after having been boiled and dried, was decalcified with nitric acid, and then weighed eleven centigrammes, which indicates that the percentage of inorganic matter in the specimen does not differ materially from the normal. The kidneys showed dilated pelves and calices, with marked atrophy of the cortical substance, and it was remarkable that with stones of that size there was no evidence of kidney disease, either irritative or obstructive in character.

Dr. Stimson also presented

AN ORDINARY LEAD-PENCIL REMOVED FROM THE PENIS AND BLADDER

of an unmarried man, forty-six years of age. The pencil was seven and one-sixteenth inches long, had been in place forty-hours, and was removed through a perineal incision. The patient said he introduced it because he found himself unable to urinate, but there was nothing in his history, or in the condition of the urethra, to confirm the excuse.

Dr. Post had had occasion, many years ago, to remove, through a perineal opening, a short piece of a lead-pencil from the neck of the bladder. The piece had been sharpened at one end, and the patient had taken the precaution to make it smooth by covering it with a little ball of sealing wax.

TUMORS OF THE BLADDER; CYSTOTOMY.

Dr. Little presented a number of tumors which he had removed from the bladder of a patient in St. Luke's Hospital, who gave the following history, which was kindly furnished by Dr. Ludlow, of the house staff.

James McA., aged forty-nine, married, a car-driver by occupation, and a native of Ireland. His family history is good. About eight years ago he had a sudden hemorrhage from the bladder while urinating. For two days previous he had frequent micturition and pain at the symphysis pubis. From this time up to one year ago the hemorrhage recurred at intervals of three or four months, and lasted about as many days. During all this time micturition was not very frequent, and he continued at work. Then, about one year ago, the quantity of urine voided steadily diminished for about one week, and then stopped altogether, and it was necessary to resort to catheterization. Since this time he has constantly used the catheter, as he has been unable at any time to pass more than a small quantity of urine, and that with great pain. The desire to urinate has become more frequent. The patient was sent to Dr. Little's Clinic at the Post Graduate School, by Dr. W. B. Wallace, about two months ago.

On examination no calculus was found, and it was discovered that the introduction of a sound or a soft catheter was always followed by a fresh hemorrhage into the bladder. He was able to hold his urine without pain for six or eight hours at a time.

The symptoms indicating a growth in the bladder, he was sent to St. Luke's Hospital for an exploratory operation. A consultation was held and the operation advised. An examination of the urine showed pus, blood, mucus, and triple phosphates. No casts or shreds of tumor were found.

On October 27th Dr. Little performed median cystotomy. On introducing the finger a number of soft tumors could be detected. These were situated at the trigone of the bladder between and extending beyond the orifices of the ureters. A number could also be felt attached to the upper surface of the bladder. The situation of these growths being distinctly made out by the finger, Thompson's tumor forceps was introduced and the tumors seized and twisted or bitten off from their attachments. It was found necessary to enlarge the opening in the bladder by a slight incision downwards toward the prostate in order to introduce the forceps with facility. Twenty distinct masses, most of them seeming to be separate tumors, were removed. These varied from the size of a hazel-nut to that of a hickory nut. They all seemed to be villous in character. A large number of small pieces, evidently torn off from larger tumors, were also removed. The surfaces of the bladder after the removed of these growths was left considerably roughened. Two orifices large enough to allow of the introduction of the tip of the finger could be felt in the situation of the openings of the ureters, these seemed to be the dilated orifices of the ureters.

The hemorrhage during the operation was considerable, but not enough to be alarming at any time. After the operation was completed the bladder was thoroughly washed out with hot boro-salicylic acid solution. This seemed greatly to lessen the hemorrhage. The wound was left open, no tube or catheter being used. During the evening following the operation the hemorrhage at times was very free. Dr. Hance, the house surgeon, tried injecting a solution of tannic acid without effect, finally he succeeded in controlling the hemorrhage by packing the rectum with ice and applying ice-bags over the pubes.

October 28th. Patient's condition is good. Temperature 99°. Urine stained with blood.

(Since the last notes in the history furnished by Dr. Ludlow, and read to the Society, the patient has been steadily improving, passing nearly all his urine from the penis, without pain, free from hemorrhage, and without recourse to a catheter.)

The microscopic examination of the tumor will be reported at the next meeting of the Society.

RUPTURE OF BLADDER (INTRAPERITONEAL), WITH FRACTURED PELVIS; LAPAROTOMY AND SUTURE OF BLADDER; DEATH.

Dr. W. T. Bull presented a specimen with this history: A laborer, forty-six years of age, was brought to the Chamber Street Hospital October 27, 1884, at 12.27 P.M., having fallen from the first floor to the cellar through an elevator shaft, a distance of sixteen feet. He was unconscious on admission. Respiration 31, shallow; pulse 96; temperature 95°, surface cold; presented evidences of the following injuries: Lacerated wounds of right temple, fracture of the left radius (Colles's), and fracture of right side of pelvis, the exact location of which was not made out. Three hours later, while still unconscious, a catheter was passed into the bladder without difficulty, and ℥iss of bloody urine withdrawn. Temperature 97½°; pulse 78; respiration 40. A No. 30 French steel sound also passed readily. An hour later ℥ss of bloody urine was withdrawn by catheter, and about the same amount for three successive hours.

Stimulants and hot-air bath. The man gradually regained consciousness, but was very restless, and complained of pain in the lower part of the abdomen, but evinced no desire to urinate. Pulse 120, weak; respiration 44; temperature 97½°. There was dulness in both iliac regions and the hypogastrium, all on the same level, and half way to the umbilicus. No uncommon swelling. On introducing a black-rubber catheter as far as the bladder, ℥ij of bloody urine were withdrawn, but ℥ij with clots were expelled when the instrument was pushed to a depth of eleven inches from the eye of the catheter. With a silver catheter the point gave to the finger the impression of engaging in a mesh of soft tissue, after it had been passed quite beyond the os internum. At midnight, twelve hours from the time of injury, pulse 150; respiration 44; temperature 96°. An hour later the condition was but little changed, the temperature being 98°; pulse 140; respiration 44. I saw the patient at this hour with Dr. F. W. Murray, and feeling certain, from a consideration of the symptoms above enumerated, that a rupture of the bladder had occurred, either into the peritonetal cavity or into the subperitoneal tissue anterior to the bladder, decided to make an exploratory incision into the abdominal wall. Ether was administered, Dr. Murray and the House Surgeon, Dr. Mack, assisting. Before making the incision it was ascertained that the pelvis was fractured only through the body and descending ramus. After opening the subperitoneal connective tissue much blood but no urine was found to be extravasated in its meshes. On cutting through the peritoneum to the extent of three inches several ounces of thin, bloody fluid, apparently urine, escaped, and the small intestines floated into the wound and obscured both vision and touch. The presence of the intestines rendered further exploration so uncertain that I extended the abdominal incision to five inches, and drew out all the coils of intestine that were accessible, and had them held on the left side protected by towels wet in warm water. The bladder was now drawn upwards and forwards over the symphysis, and held by a hook. A rent was now plainly seen in its posterior wall, commencing just below the point of its peritoneal covering, and extending one and three-quarters of an inch backwards. Its edges were slightly everted, displaying the mucous membrane, and a catheter introduced per urethram emerged through the rent. The wound in the bladder was then closed by seven carbolized silk sutures introduced from below upwards, and passed like a Lembert's intestinal suture through the peritoneal coat only. It was estimated that the sutures were placed at intervals of from one-eighth to one-quarter of an inch. The bloody fluid and a few clots were then sponged out of the abdominal cavity, the intestines replaced, and the incision in the parietes closed with four silver wire, six silk, and thirteen catgut sutures. A dressing of iodoform and absorbent cotton was applied, a small rubber drain being left at the lower angle of the wound. A soft rubber catheter was tied in the bladder.

I choose this method of drainage of that viscus, in preference to a median cystotomy, because I thought it would prove efficient, while the care of a perineal wound would be likely to interfere with the quiet necessary for the open management of the fractured pelvis. Again, the patient's condition did not permit continuing the operation longer than was necessary, and it seemed to me that the cystotomy could be done later if the catheter did not drain the bladder satisfactorily. The operation lasted one hour, and, during its performance, tincture of digitalis and whiskey were several times injected subcutaneously. At its close the pulse was 130, and of better volume and stronger than before; respirations were 40, and shallow. One could truthfully say that, notwithstanding the operative attack and the etherization, which was conducted with great care, the man's condition was no worse than before it was begun. In spite of all efforts to improve his condition, the man died comatose seven hours after the operation and nineteen hours from the time of injury. In the interval between the operation and his death two ounces of clear urine passed through the catheter. Only an incomplete autopsy was possible. Dr. Murray, who kindly examined the body, reported to me that on opening the abdomen he found much extravasated blood in the subperitoneal tissue of both iliac and the right lumbar regions, the pelvis fractured through the body and descending ramus of the right side, and the fragments of the horizontal portion separated by an interval of one inch. The peritoneal cavity contained no urine, the intestines were healthy, but Douglas's cul-de-sac contained about one ounce of fluid blood. The urethra, rectum, and bladder were removed en masse, and presented no lesions except some submucous ecchymoses in the bladder, and the rent closed by suture in the posterior wall of the bladder. Before opening that viscus, however, it was filled with water through a funnel introduced into the urethra. A little water escaped between the two lowest sutures. It was found that, while the other sutures were introduced at pretty regular intervals of from ⅛ to ¼ of an inch, these two sutures covered an extent of wound equal to ½ an inch. The wound in the mucous membrane had about the same extent as that of the peritoneal coat—1¾ inches—and its edges were gaping inwardly. The bladder was completely empty and contracted; kidneys were healthy; other parts could not be examined.

Dr. Bull said that he had felt justified in giving this patient the chance of the operation, in spite of his other injuries, feeling sure of the diagnosis, and knowing that his greatest danger was from allowing the extravasated urine and blood to remain in the peritoneal cavity. He had been surprised at the fact that, after opening the peritoneal cavity, the intestines, though not distended, were so much in the way that he could get no idea of the state of the bladder save that it was empty, and he believed that, by putting them aside, he did no harm, and gained much in time and the facility of exploring the bladder-wound. It was not easy to introduce the deepest sutures. He had made every effort to close the wound carefully, but had failed, as the injection of the bladder on autopsy showed, to do so perfectly at its deepest part. At the same time he thought that, as the adhesion of the peritoneal membrane took place so rapidly, occurring, as examinations after ovariotomy have shown, in from six to twelve hours, the wound would not have "leaked" had the patient lived. This seems all the more likely, as the drainage through the catheter was perfect, two ounces having flowed away in the seven hours before death, and the bladder being found quite empty and contracted.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Semi-Annual Conversational Meeting, Oct. 23, 1884.

THE PRESIDENT, E. O. SHAKESPEARE, M.D., IN THE CHAIR.

DR. FRANCIS DELAFIELD, of New York, by invitation, read a paper on

THE PATHOLOGY OF BRONCHO-PNEUMONIA.

(See page 534.)

DR. PEPPER said that he had listened with very unusual interest to the paper of Dr. Delafield, in which he had so distinctly and concisely set forth his views on this very common disease.

He thought that all who had listened to Dr. Delafield would agree with him in congratulating the author upon the clearness and force with which he had described a condition which had hitherto often been confused by prolix description and by want of definiteness in separating different anatomical conditions. In regard to the term "broncho-pneumonia," which Dr. Delafield prefers, he has proved by his anatomical studies of the infiltration of the bronchial walls and of the surrounding parenchyma, that this term is strictly applicable to the cases upon which this paper is based.

Dr. Pepper stated, however, that though chiefly from a clinical standpoint, he was inclined to prefer the term catarrhal pneumonia, as probably including the form described by Dr. Delafield, as well as certain other forms which seem to him to be necessarily included in a complete picture of the disease.

For instance, there are many cases in adults which begin with rigor, followed by high fever, with temperature of 102½° to 104° F., with cough hard and dry at first and later with muco-purulent expectoration, with no very definite physical signs, careful examination will show local impairment of resonance, coarse crackling râles on deep inspiration and weak vesicular murmur. This condition may be limited to the apex or to the neighborhood of the root of one lung, or may occur elsewhere. The cases have a duration of from eight to twelve days, and terminates by lysis with resolution, though not rarely some cough remains, and the lung is sensitive and prone to recurring attacks, which in subjects predisposed to phthisis may induce that disease.

It seems to me difficult to regard these cases as anything else than mild catarrhal pneumonia; for this type of pneumonia agrees with other catarrhal affections in the wide range of severity presented by different cases. On the other hand, there are cases much more common in children in which disease extends from the bronchial tubes into the lobules to which they lead.

The commonly accepted opinion that the lining of the alveoli and air vesicles are susceptible to catarrhal inflammation, appears to me well established. In such cases the disease may extend outwards to the peribronchial tissue, as emphasized by Dr. Delafield, and lead to secondary interstitial changes, and also in consequence of obstruction of the bronchi, atelectasis occurs; the aspiration of irritating bronchial products fills some of the alveoli, or finally they become impacted with the results of catarrhal inflammation of their walls. Subsequently, caseation with softening may give rise to small abscesses with breaking down of the walls of the air vesicles or with perforation of the pleura, or inspissation may occur with reabsorption of infectious material with the development of general tuberculosis.

It did not seem necessary to dwell upon the cases in which atelectasis occurred as a primary condition with the subsequent development of pneumonic centres.

It seems to him impossible to consider catarrhal pneumonia without taking the comprehensive view which would include all the varieties above indicated; though the term "broncho-pneumonia" as used by Dr. Delafield, might be most appropriate to the special conditions described by him.

Allusion was made to the very interesting physical signs attending the course of atelectasis in the course of catarrhal pneumonia of children or of adults where considerable areas of the lung, or even an entire lung might pass into this state, to be followed before long by the reëstablishment of respiration and the disappearance of the physical signs. Difficult questions of differential diagnosis may present themselves, requiring critical examination. From an allusion made by Dr. Delafield, it appeared that he regarded lobar pneumonia as being, like broncho-pneumonia, induced by the ordinary causes of idiopathic inflammation. The argument does not favor all lobar pneumonia being a specific constitutional disease, or as dependent upon a special microbe, did not appear to Dr. Pepper to be conclusive, and he was glad to know, from the remarks of Dr. Delafield, that he holds the same view.

DR. BRUEN said he rose to call attention to the observations of Hamilton, of Aberdeen, in reference to the peculiar basement membrane of the bronchial tubes, which determines the chronicity of bronchitis, and probably the interstitial changes in chronic broncho-pneumonia. Hamilton, in speaking of the denseness of this basement membrane, gives it the importance of a fascia, which determines the direction in which the inflammatory products of bronchitis shall be absorbed, viz., by the lymphatics, rather than by free exudation into the bronchial lumen. The interlobular connective tissues are permeated with fibrous bands, which radiate from the fibrous coat of the bronchi toward the pleural surface. Dr. Bruen thought that if careful study of the lymphatics were made, that the absorbed products of an acute or subacute inflammation could be traced throughout the lung, finally leading to enlargement of the bronchial glands.

The importance of the basement membrane is further illustrated by the phenomena of pneumonikoniosis and anthracosis. Immediate absorption from the bronchial tubes does not occur, although the tubes are always exposed to carbonaceous matter as evinced by the blackened sputa, yet the tubes are unpigmented, the carbonaceous or organic dust being carried down into the alveoli, whence it is absorbed, and the whole parenchyma of the lungs and the bronchial glands are blackened, but always strictly in the course of the lymphatics.

In children of a strumous habit forms of bronchitis of an obscure nature often occur. Congested areas near the root of the lung are recognizable—abundant mucous râles and frequently laryngeal spasm at intervals is an important symptom. These symptoms are often referable to enlargement of the bronchial glands—and the nervous symptoms are due to irritation of the pneumogastric nerves.

Dr. J. C. Wilson asked whether Dr. Delafield designed to describe one variety of a group of affections to which the terms broncho-pneumonia, catarrhal pneumonia, desquamative pneumonia, etc., are somewhat vaguely and interchangeably applied, or to include the whole group in his account, and under the designation of broncho-pneumonia. If Dr. Wilson had understood the paper aright, he thought it certainly had referred to an especial variety of the affection in question, for there are encountered cases which differ both clinically and anatomically from the disease described by Dr. Delafield, and in which the lesions spread not only in a direction internal from the affected bronchial tubes to the peribronchial structures, but also in the direction of the long axis of the tubes to involve the terminal (subpleural) vesicles, and this, according to widely accepted views, often without antecedent atelectasis.

Dr. Carpenter said that he had very little, indeed, to give of value in a pathological discussion, but would say, at the same time, that after thirty years' experience he had arrived at certain conclusions, not perhaps new, but which had been gathered in one set of cases, viz., anthracosis. They are a very striking set of cases. They all originate in a bronchitis, which differs from the ordinary form of that disorder in one very striking symptom, viz., great oppression of breathing. This oppression is far greater than can be accounted for by ordinary bronchial inflammation. It depends on interstitial disease or peribronchitis. A true broncho-pneumonia is set up, the cause being a special one, viz., inhalation of coal dust. In these cases so great obstruction to the circulation is caused by the interstitial exudation that the circulation is very seriously embarrassed. The heart suffers—dilatation, or hypertrophy with dilatation, is produced, and a form of dyspnœa, known as miners' asthma, occurs. These cases are essentially chronic ones. He had only the day before seen a patient die with this disease who had been under his care for several years, and in whom no lesions but those of peribronchitis could be detected.

Many of these cases, however, in a chronic progress, do develop all the symptoms of phthisis. Slow alterations of structure occur, cavities form, and all the pathological conditions of the so-called fibroid phthisis are found on post-mortem examination. He, therefore, claimed that these cases are entitled to constitute a special form of broncho-pneumonia. He agreed with Dr. Pepper that acute or subacute broncho-pneumonia left sensitive areas, leading often to subsequent phthisis. In his observation, fibroid phthisis was not a true tuberculosis, but a chronic degeneration of lung-tissue, due to a preëxisting broncho-pneumonia, such as he had observed in anthracosis.

Dr. Osler said that his experience in many points tallied with that of Prof. Delafield. In the broncho-pneumonia of adults the pneumonic process, he believed, most usually spreads from the bronchi. He referred also to those cases of broncho-pneumonia which followed brain injury, or disease affecting the pneumogastric centres. In such cases the disease was deeply seated, and we find that the morbid process often surrounds the bronchi, but does not involve the terminal alveoli. The reverse is true in the case of children, in whom the disease is more peripheral, is nearer, and may be just beneath, the pleura. He was glad that Dr. Carpenter had raised the point as to anthracosis. Dr. Osler had been able to examine several cases of this affection in its very early stages, and could testify that it begins in the bronchi and thence extends to the peribronchial tissues. It is primarily then a broncho-pneumonia, and in every case he had found small disseminated black lumps resulting from localized broncho-pneumonia, which by their fusion and extension, produce a form of fibroid phthisis.

Dr. Tyson had little to add to what had already been said. He had, however, first expressed his gratification at the simple clearness with which Dr. Delafield had presented the question. Dr. Tyson had been very much impressed with the diversity of nomenclature of the disease under consideration, and it would be useful if we could agree upon some common term. For a long time desquamative pneumonia had seemed to him to be the best term, but from a study of the pathological histology, he thought the term peribronchial pneumonia more suitable. If now the adjective desquamative be added, we have a term which will be still more comprehensive and exact.

Dr. Tyson thought that our understanding of the enormous peribronchial cellular infiltration would be much simplified if we lose sight altogether of the idea that there is essentially any form of inflammation except interstitial inflammation. He had come to the conclusion that there is no such thing as catarrhal or parenchymatous inflammation, the phenomena usually considered characteristic of these being secondary. The wandering out and massing of leucocytes is the one essential factor of the inflammatory process. He would like to ask Dr. Delafield where he would draw the line between this process and tubercular phthisis. He presumed that Dr. Delafield agreed with all other observers in admitting that broncho-pneumonia does sometimes terminate in tubercular phthisis, and when this occurs it is often difficult to say where the broncho-pneumonia ends and where the phthisis begins, although the extremes may be easy of recognition.

Dr. Formad would like to ask the lecturer's instruction how to distinguish broncho-pneumonia in its *chronic* form from *tubercular* broncho-pneumonia. Like Dr. Tyson, he felt that he was unable to draw a line of distinction between the two affections. Indeed, Dr. Formad was unaware of a non-tubercular form of broncho-pneumonia in man until he saw Dr. Delafield's excellent records and representations of this lesion; this being explained by the fact that Dr. Formad dealt almost entirely with the dead, while most of the speakers had shown that although broncho-pneumonia in its *acute* form was a common disease, it did not prove fatal in the vast majority of cases, the patients either getting well or the disease assuming a chronic course.

Dr. Formad fully recognized *acute* broncho-pneumonia as an independent affection, although he believed he had observed this lesion *post-mortem* only in dogs, such as induced artificially by means of forced inhalations of a spray containing irritating particles. Dogs with such artificial broncho-pneumonia (even if tuberculous sputum was resorted to to induce it) Dr. Formad had observed always to recover within a couple of months; but if the dogs were killed before the end of the first month after the operation the post-mortem showed invariably an acute broncho-pneumonia not distinguishable from that described by Dr. Delafield as occurring in man. Throughout the lung substance are seen small nodes of irregular outlines in size resembling tubercles.

Under the microscope these nodules show to consist of mere unorganized collection of cells, often in a state of retrograde change and mixed with mucus and débris; this exudate being limited to the lumina of the bronchials and their pertaining groups of air-vesicles (the acini) which they fill. On section these artificial boundaries give rise to the appearance of nodes. Very often epithelial cells and mucus from the bronchi have been seen intermingled with the purulent contents within the air vesicles; this suggests that the exudate contained in the latter may have been partly aspired from the bronchi (during forced breathing) and was lodged in the air vesicles as foreign material.

These lesions have been mistaken by stupid observers for true tubercles. *Acute* broncho-pneumonia in man appears to be a lesion perfectly analogous to the one described above in dogs. The human disease once becoming chronic its distinction from tuberculous broncho-pneumonia ceases.

DR. DELAFIELD, in closing the debate, said that all the speakers had brought out what was one of the most difficult points concerning broncho-pneumonia, namely, its limitations. Strictly speaking, every pneumonia is a broncho-pneumonia, and the application of the term to a certain group of cases is of course arbitrary. He believed, however, that the name is most properly employed to designate the group of cases which he had described.

In anthracosis there is a chronic bronchitis and also a chronic pneumonia, but yet the lesion is not, properly speaking, a broncho-pneumonia.

He did not believe that the inflammation travelled directly from the bronchi to the air vesicles into which they entered, but that the appearances which simulated this were due to atelectasis.

He thought that the term catarrhal pneumonia was a very bad one, and that the air vesicles were structures entirely different from mucous membranes.

He did not believe that broncho-pneumonia was a form of phthisis or lead to phthisis, but that phthisis had its own special anatomy from the very beginning.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 6, 1884.

THE PRESIDENT, FORDYCE BARKER, M.D., LL.D.,
IN THE CHAIR.

REPORT FROM THE SECTION OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

DR. ALEXANDER HUNTER, Chairman, reported that at a very largely attended meeting of this Section, held October 23d, Dr. Joseph E. Winters had read a paper on the subject, 1st. *What are the Indications for Tracheotomy?* 2d. *Is the Operation either Difficult or Dangerous?* In consequence of the interest of the paper and the discussion to which it led, it had been voted to recommend that Dr. Winters should be given the opportunity of presenting the subject before the Academy at large. The Chair then announced that it had been arranged that one of the meetings in December should be devoted to the matter.

THE MORTGAGE ON THE ACADEMY BUILDING.

A communication from the Council was read by the Secretary, in which it was recommended that the President should appoint a committee of six, with power to increase its number to fifteen, for the purpose of raising funds to pay off the mortgage on the Academy's hall. The Chair then said that as the mortgage remaining on the property amounted to but $5000, and as it was highly desirable that the amount at present required to pay the interest on this should be devoted to increasing the working efficiency of the Academy, he trusted that a very earnest effort would be made to wipe out the indebtedness; and in this connection he referred to the generous gift, last spring, of $1000 by Dr. H. P. Farnham, the former treasurer. He announced the members of the committee as follows: Drs. G. M. Smith, C. R. Agnew, C. A. Leale, F. A. Carth, H. T. Hanks, and Everett Herrick.

DR. FRANK H. HAMILTON read a paper on

THE ASIATIC CHOLERA AT SUSPENSION BRIDGE IN 1854, AND ITS LESSONS; WHAT WE KNOW OF CHOLERA,

which he said was written in fulfilment of a promise made thirty years ago to Dr. S. B. Hunt, at that time editor of the *Buffalo Medical Journal.* Having mentioned that there were several epidemics of cholera at Buffalo from 1849 to 1854, he gave an account, taken in part from Dr. Hunt's report in the *Buffalo Medical Journal,* of the remarkably violent and fatal outbreak of the disease at Suspension Bridge, two miles from Niagara Falls, which commenced on July 18th of the latter year. According to Dr. Hunt, there had been no locality, with, perhaps, the exception of Sandusky, Ohio, in which there was such a severe epidemic as here. Many cases ended fatally in six hours, there having been no premonitory diarrhœa, and treatment seemed almost of no avail. The panic was indescribable, and in one instance four dead bodies were disposed of by burning the shanty in which they lay. The main factors in the serious character of the outbreak seemed to be elevated temperature, moisture in the atmosphere, low and alluvial ground, and the fact that the soil had recently been upturned. At the request of Dr. Rogers, the only local physician, the place was visited, necessarily, by Drs. Hunt, Rochester, and Hamilton, and the latter spent July 23d and 24th there. In the upper village only five cases occurred, and the last one of these was the wife of Dr. Rogers. The disease was, of course, carried to a number of places in the vicinity, but as the special conditions favorable to its development were wanting, it failed to spread in any of them. Cases of the disease thus being carried to other and salubrious localities were like brands from a conflagration, which, falling in positions where there was no inflammable material to ignite, did no harm.

Having stated that the inferences and lessons to be derived from this visitation of Asiatic cholera at Suspension Bridge were by no means new, Dr. Hamilton proceeded to inquire what the present state of our knowledge was in regard to this disease. In the first place, we had no positive knowledge of the existence of a specific cholera germ. That there was such a germ seemed highly probable, but its existence had not as yet been proven. He, secondly, gave a *résumé* of the microscopic investigations in regard to the disease, claiming that a cholera microbe had been discovered by an Italian physician as long ago as 1834. Having described the researches of Koch, he stated that H. Van Dyke Carter, of Bombay, had proved not only that the comma-bacillus was not infrequently wanting in cases of cholera, but that this microbe was occasionally found in diarrhœal diseases other than cholera. He spoke of Finkler and Prior having claimed to find the comma-bacillus in cholera nostras, and also of Mr. T. R. Lewis, one of the professors of pathology in the British Army Medical School, finding it in the mouth and fauces of healthy individuals. Referring to the experiments of Rietsch and Nicati, who claimed to have inoculated dogs, guinea-pigs, and other animals by injecting a part of a pure culture of comma-bacilli into the duodenum, after ligation of the ductus choledochus, he said that he thought their conclusions should be received with hesitation, since, so far as he was aware, none of these animals had ever in a single instance been known to contract cholera through natural sources. Dogs and cats were frequently exposed to the contagion, and the former had even been known to eat the excrement of cholera patients, yet without receiving infection. It seemed to him probable that the empirical procedure adopted by the Swiss experimentors referred to, excited an irritation in the intestinal tract which gave rise to symptoms resembling those of cholera. Having mentioned that the Egyptian Cholera Commission, consisting of Strauss, Nocard, and Roux, had failed in their efforts to inoculate animals with cholera, he stated that another French commission, which failing to do this with comma-bacillus, had succeeded when they injected the blood of cholera patients. On the whole, therefore, it seemed to him that Koch's claims for the comma-bacilus had not as yet been substantiated.

Third. Even if it were established that this microbe was always found in cases of cholera, and was never found except in this disease, the relation of cause and effect would not be proven.

Fourth. If, as seemed to be the fact, there were several microbes found in the intestines and dejecta of cholera patients, we did not know which one of these might be the active causative agent.

Fifth. We did not know whether the cholera infection was conveyed by such microbes or by the fluid in which they were found. In this connection Dr. Hamilton said that, while he had no desire whatever to underrate the value of the microscopical investigation of disease, and while he honored those who devoted themselves to such studies, especially in this country, where there was no remuneration for this kind of scientific work, it was certainly a fact that, so far as cholera was concerned, not a single advance in the way of prevention or treatment was attributable to this source. Koch had as yet added nothing to our practical knowledge; but experience had taught us much. It was not positively determined that the infectious material of cholera might not be in the blood or the breath of the individual affected with it.

Sixth. It was known that infection was carried in articles of clothing, in water, etc.

Seventh. It was also carried for considerable distances by the air. He did not think, however, that this was the case beyond a mile or two.

Eighth. The theory of Koch, that the infection entered the system through the alimentary tract alone, was not proven.

Ninth. There was good reason for supposing that it also entered by means of the respiratory organs, and was diffused through the circulatory system.

Tenth. Whatever the germ of cholera was, it was necessary that it should have a suitable soil and conditions for its development.

Eleventh. Among the conditions favorable for its development were bad air, the emotion of fear, etc., with the concurrence of a high temperature and a moist condition of the atmosphere. Low ground and an alluvial soil, with a substratum of clay, were especially favorable, and the upturning of the earth greatly increased the efficiency of these conditions. The effect of the character of the soil was shown in a certain district of Buffalo, bordering on the lake, which, though low and filled with an Irish population residing in shanties, had a sandy soil, and so was almost exempt from cholera when the disease was epidemic in the city.

Mr. Farr had found that the disease was most fatal in London in the low districts along the Thames, and similar facts had been noted of other diseases. In 1849 very severe epidemics of cholera prevailed in Toledo and Sandusky, which are situated on low and richly alluvial plains, and in the latter place no less than seventeen physicians fell victims to the disease. On Saturday, the 4th of July, 1852, when cholera was present in the city of Buffalo in a mild form, the digging of a drain was commenced through Ellicott Street, on which were located many of the finest residences in the place. Although this street had always been exempt from cholera during previous visitations of the disease, a case occurred on Monday, the 6th, and within the next three days there were no less than nineteen cases of the disease in the street, quite a number of which proved fatal. During Monday and Tuesday the digging was continued, but on Wednesday, the 8th, the ditch was filled in by order of the mayor; after which no more cholera occurred in the street.

Twelfth. No specific for the treatment of cholera had as yet been discovered, and it was altogether probable that there never would be. By means of clinical experience, however, more had been learned in regard to the successful treatment of the disease than from any other infectious epidemic. It had been found impossible to avert such diseases as yellow fever and typhus fever, but this could be accomplished in the case of cholera if taken in time.

Aside from the removal of the patient from circumstances predisposing to the disease, opium and absolute rest were the great means for the arrest of cholera. The opium, he thought, it was best to administer in solid form and in doses of from one-half to one grain every three or four hours until the diarrhœa was controlled or there were signs of narcosis. The production of deep narcosis was very undesirable. If the bowels contained much irritating matter, it was best to commence the treatment with a brisk purgative. For checking the bowels, morphia, as a rule, was not so good as opium, on account of its greater tendency to produce nausea. The patient, under no circumstances, was to be allowed to rise from the recumbent posture. If an explanation were sought for the action of the opium in accordance with the germ-theory of the disease, it would probably be the following: The period of activity of the cholera germ had been found to be very brief, and the utility of the opium appeared to depend on its power of retaining the secretions in a normal condition until this period had passed.

Among the inferences to be drawn from the epidemic at Suspension Bridge were the following:

First. The cholera germ was conveyed to the settlement by some immigrants who were temporarily detained near the laborers who were engaged in the construction of the bridge. The first case occurred among the emigrants, although until they reached this locality, which was favorable to the development of the disease, there had been, so far as known, no case of cholera among them.

Second. The emanations from a large amount of freshly upturned soil, abounding in vegetable matter, rendered the spread of the disease easy.

Third. The elevated temperature and moisture of atmosphere prevailing at the time were also highly favorable to this.

Fourth. While the disease was disseminated to a number of other places in the vicinity, it did not spread in them because there was not the same favorable conditions as at Suspension Bridge.

In case cholera should reappear in the city of New York, Dr. Hamilton believed that a fatal epidemic, such as had recently occurred in Toulon, Marseilles, and Naples, would not take place, because here the climate was more favorable, the sewerage was better, the ground was higher, there was a smaller proportion of the poorer and filthiest class, and the sanitary regulations were better than in those cities.

Having referred to the intelligent and energetic action of the Metropolitan Board of Health on the occasions when cholera had previously visited the city of New York, he spoke particularly of the rapid and fatal epidemic of the disease at the workhouse on Blackwell's Island, in August, 1866. Dr. Hamilton was placed in charge, and the active sanitary measures adopted resulted in the prompt suppression of the outbreak. Dr. L. M. Yale, who, with thirteen other house surgeons, was engaged in the work, made, at the request of the Commissioners of Charities and Correction, a very elaborate and able report of the epidemic.

DR. YALE, being called upon by the Chair to open the discussion, mentioned some of the noteworthy points in regard to the epidemic on Blackwell's Island referred to in the paper. In the first place, he said, it was preceded by a period of great heat in July, and there had been an unusually large number of diarrhœal cases on the Island during the summer. In June there were twenty or twenty-five cases of severe cholera morbus, though none of them proved fatal. The regular water-supply was cut off for a time, and for a considerable period the bread furnished to the workhouse inmates was sour. The first few cases of cholera occurred at Charity Hospital and were sporadic. Four days after the first case appeared at the workhouse, the epidemic commenced, and sixteen cases occurred the first night, August 1st. On August 2d there were thirty-two cases, of which twenty-three proved fatal. Having described the cells in the male and female departments, and the bad sanitary conditions which prevailed, he mentioned the measures adopted for checking the further spread of the disease. In every instance in which a case of cholera could be taken in hand while the initial diarrhœa continued, the patient's life was saved, but i was often exceedingly difficult to secure the patients at this stage of the attack, as most of the inmates considered it equivalent to a sentence of death to be sent to the cholera hospital. The epidemic was controlled with wonderful rapidity. While on the 2d of August the mortality amounted to five and a half per cent., and on the 3d to five and three-fifths per cent. of the total population, within five days it was reduced to less than one per cent. At the almshouse one curious fact was noticed. Of two pavilions of almost identical character, which stood side by side (within thirty feet of each other, although separated by a wall, one of which was occupied by old men, and the other by epileptic and paralytic women), in one twenty-seven cases of cholera occurred, and in the other not a single one. Although its sanitary condition was worse than any other on the Island, the penitentiary building almost entirely escaped the cholera, there being only seventeen cases among its inmates. This was probably due to the fact that the discipline and police regulations were much more severe than in the workhouse and almshouse. The inference from this outbreak seemed to be that if, with the enforcement of strict sanitary measures, cases of cholera could be treated in the early stage of diarrhœa, every epidemic of this disease could be promptly controlled.

DR. FRANCIS A. DELAFIELD remarked that he supposed that all would be willing to acknowledge that cholera belonged to the class of infectious diseases, diseases which were believed to be due to the agency of some specific poison. No matter to what bad hygienic influences (which might give rise to a great many other troubles) an individual might be subjected, he would be in no danger of contracting cholera unless the specific poison of that disease were present. Whether this specific cholera germ was capable of originating *de novo* had often been discussed; but experience seemed to demonstrate the fact that outside of a certain district in India, at all events, such a thing was highly improbable. What, then, was this cholera germ? The latest theory in regard to it was in accordance with the prevalent opinion of the times, and was to the effect that the disease was due to the presence of certain minute organisms. This was the fashion of the day in the scientific world. Such fashions were sometimes good and sometimes bad; but whether they were of the one character or the other, it often took a long time to obliterate them. Under the present fashion of thus explaining the development of all infectious diseases, the causation of cholera was referred to a particular micro-organism, and in his paper Dr. Hamilton had stated very fairly the evidence for and against this hypothesis in the cause of this disease. He had, however, not stated that out of quite a number of experimenters who had investigated the subject there might in reality be only one or two whose testimony could be accepted as worthy of credence. The technique of such investigations was exceedingly laborious and complicated, and hence it was a matter of very great importance whether in any given instance the observer was competent. For his own part, he believed that there were extremely few individuals who were sufficiently expert in this technique to be capable of making trustworthy observations.

Dr. Hamilton had referred to certain circumstances of soil, atmosphere, temperature, and hygienic conditions as favorable to the development of cholera. They were, in general, such circumstances as were favorable to diarrhœa, and, therefore, whatever conditions of the kind predisposed to diarrhœa also predisposed, he believed, to this disease. Hence, whenever the cholera was introduced into a locality where the condition of affairs predisposed to diarrhœal trouble, there was likely to be a bad epidemic. If, on the other hand, no causes predisposing to diarrhœa were present, the introduction of the cholera germ would be followed by no serious consequences. This simple fact seemed to him to indicate very clearly the rational means for the prevention of cholera. Quarantine, if there was to be any commercial intercourse between nations at all, was practically useless. While, therefore, the importation of cholera germs could not be prevented, it certainly was possible to prevent the development and spread of the disease by removing, as far as was possible, all causes predisposing to diarrhœa.

Dr. Alfred S. Loomis said that his personal experience with cholera was very limited, as the only cases of it which had ever come under his observation were a few in the years 1866 and 1867. These had not afforded him sufficient data to found any conclusions upon, and he, therefore, simply occupied the position of a student of the literature of the subject. The paper just read was by one who had had an extensive experience with cholera, and he did not hesitate to say that Dr. Hamilton had called attention to some facts of which he had previously been ignorant.

The first thing to determine was, In what class of diseases do the facts and written history of cholera place it? There were three classes of infectious diseases, viz.: (1) Those in which the morbific agent was developed only in the blood, and reached its full development within the body. Such diseases are directly transmitted from the infected to the non-infected individual, and were strictly contagious. Of this nature were typhus fever and the exanthemata.

(2) Those in which the morbific agent was developed outside the body in decomposing organic matter, and was introduced into the system through the agency of water, the atmosphere, etc.

(3) Those in which the specific poison was developed in a living organism, but was in a passive state at the time of leaving such organism. It was necessary that the agent should undergo certain changes, in connection with decomposing organic matter, after it had left the body, before it was capable of giving rise to infection.

In this last class, it seemed to him, cholera should be placed, and the diseases which it resembled more closely than any others were typhoid and yellow fevers. It was now almost conclusively demonstrated that the changes referred to were requisite before either of these affections would become developed.

Dr. Loomis then took up the following points in regard to the characteristics of cholera:

First. Is cholera indigenous in any part of the world? There were undoubtedly localities where yellow fever, and even typhoid fever, were indigenous, and it had now come to be universally acknowledged that Bengal was the centre of all cholera epidemics. After spreading through India, as the first step, it often continued to extend over the entire globe, and its progress, although generally slow in the beginning, was sometimes afterwards very rapid. In the years 1832, 1848, 1849, 1852, 1853, 1854, 1866, and 1867 it had visited the United States.

Second. Is the disease ever of spontaneous origin? The facts showed that almost invariably it could be traced to some previous case, although a considerable time might have elapsed since the occurrence of the latter. If it was not of spontaneous origin, there was no satisfactory evidence to show that its development always proceeded directly from an individual or individuals infected with the disease.

Third. What are the characteristics of its spread from its point of origin? It always spread irregularly, and was especially liable to appear wherever diarrhœa was prevalent. The statement had been made that without moisture in the soil there could be no cholera. In Marseilles ninety persons had died in a single house, in which there was a damp court-yard with a foul privy. At all events, something besides filth was required for the development of the disease. It was undoubtedly one of the favoring causes, but in itself it was innocuous. So of over-crowding; but a cleanly over-crowding, such as was often met with in the hospitals, was not a specially favorable condition for it. Impure water was frequently a means of its spreading, and at Arles no less than forty cases occurred along an uncovered drain 400 feet in length. Not only the condition of the drinking-water, but that of the sewerage, had much to do with the spread and fatality of cholera. High temperature, as a rule, was also favorable to it; yet striking instances were on record when bad epidemics occurred at a time when there was a very low temperature.

Fourth. Is there a specific cholera germ, and, if so, how does it gain entrance to the body, and where reside? Dr. Loomis thought that there was such a germ, and that in a large percentage of cases it entered the system through the intestinal tract. It had by no means, however, been proved that this was the sole location in which it could be found. In all epidemics of cholera there were certain nervous phenomena which indicated that the blood was the seat of trouble. All that we could say was that the cholera poison undoubtedly entered the body through the mucous membrane. While this, no doubt, generally took place in the intestinal tract, it seemed true that it sometimes also occurred in the respiratory tract. When the poison had thus entered the system, it appeared to give rise to changes in the blood, and in the cell-elements of various organs. One remarkable feature about the disease was the immunity from the danger of contracting it, which nurses and others brought into close contact with cholera patients enjoyed. Pettenkofer was the first to regard human excrement as the usual means by which infection was spread. As to the agency by which the infection entered the body, nearly all recent authorities were agreed that drinking-water was the cause of nine-tenths of all cases of cholera, and even if the drinking-water was not contaminated, water in other shapes was still the great source of infection, the latter being conveyed through drains, sewers, etc. The reason that Rome escaped while Naples was visited with a fearful epidemic of cholera was, he had no doubt, because the former city had just completed an improved system of both drainage and sewerage. The atmosphere was probably responsible in a small degree for the spread of cholera, since the history of some epidemics seemed to show that the winds conveyed the infection. The Bengal Cholera Hospital statistics afforded considerable proof that not only through the agency of the mucous membrane of the mouth and the respiratory tract were cholera germs admitted to the body, but also by means of the rectum and large intestines. Striking cases were recorded which pointed clearly to the danger of receiving the poison in this way in privies.

Fifth. Can cholera be directly caused, or, in other words, is it contagious? The poison undoubtedly adhered to clothing, to various objects, and to places, and, when the proper combination of circumstances occurred, became active. An instance had been reported in the *Lancet*, in which a French monk who had died of cholera had been buried in his infected clothing near a well, in consequence of which an epidemic of the disease occurred in the neighborhood in three days afterwards. It was a curious fact that one room of a house might be a hotbed of cholera, while the occupants of other apartments entirely escaped infection. Foul water was rightly regarded as almost always a source of great danger, yet the foulest water in India was at a post where the health of the garrison was so good that the government would not allow any change to be made. Though the water was bad in other respects, cholera germs had never been deposited in it. The facts went to show that decomposing excrement, and clothing soiled with this, were among the most common agencies by which cholera was spread.

Having mentioned that in 1849 Dr. Budd published diagrams of cholera fungus with a bacillus resembling that of Koch, Dr. Loomis said that all previous researches in regard to the specific germ of cholera were insignificant compared with those of the great German investigator. But in order that he should be willing to accept the conclusions of Koch, it would be necessary to have proved, beyond any question whatever, that the microbe described by him was always present in cases of cholera, that it was never found in any other disease than cholera, that it was never found in the healthy body, and, finally, that inoculation with it gave rise to cholera. Up to the present time he did not think that these points had been satisfactorily demonstrated.

Dr. Loomis then proceeded to inquire if cholera was a preventable disease. If the conditions favorable to its growth were carefully guarded against, and if a sufficiently strict quarantine was maintained, he believed that it could certainly be prevented. In regard to the treatment of the disease, Dr. Hamilton had said all that was required.

DR. JOHN C. PETERS exhibited a couple of plates, one of which represented the peculiar delta in India which was the special home of cholera, and the other the roads and railways leading from it, along which cholera usually spread to other parts of India, and thence the world at large. In referring to the epidemic in the United States in 1854, he said that the disease entered America through three cities, Quebec, New Orleans, and New York. As regards the efficiency of a strict quarantine in preventing the introduction of cholera, there are two striking instances which showed the evil result of abandoning this. When Denmark, which had been frequently exposed to the danger of cholera infection from other nations, but had always escaped through the strict quarantine she maintained, for the first time removed this, an epidemic occurred in the country, in which there were 7000 cases, with 4000 deaths. The quarantine was then reëstablished, and there had been no more cholera there up to the present time. The same thing was true in regard to Greece. At the time of the Crimean war cholera was introduced by the French soldiers, but there had been no subsequent epidemic there. Dr. Peters then quoted some statistics of the United States army during the late war. It contained, on an average, 800,000 men a year, and during the years from 1861 to 1865, inclusive, there were a vast number of cases of malarial disease and a vast number of cases of diarrhœal disease among the soldiers; yet not a single case of cholera occurred. The specific poison of Asiatic cholera was lacking; but the very year after the war, 1866, this disease spread almost all over the country.

On motion of Dr. Alfred C. Post it was voted that the discussion of the subject should be continued at a subsequent meeting of the Academy.

CORRESPONDENCE.

RAPID DILATATION OF THE CERVIX FOR STERILITY AND DYSMENORRHŒA.

To the Editor of THE MEDICAL NEWS.

SIR: I read, with great interest, in THE NEWS of October 19th, the remarks of Prof. Goodell before the Obstetrical Society of Philadelphia, on rapid dilatation of the uterine canal, and heartily agree with him that it is a perfectly safe and a very satisfactory procedure. While my experience has not been quite so extensive as his, it has been more satisfactory. Within the past year and a half I have operated between thirty and forty times, and always with entire relief of the dysmenorrhœa unless dependent upon some previous ovarian trouble; but have not in every case overcome the sterility. In no case have I been obliged to repeat the operation. Some have conceived within the first three months after the operation. My mode of dilation is similar to that of Prof. Goodell, but the opium suppository is omitted, as the operation, in my hands, has never been followed by any unfavorable symptoms.

Prof. Goodell's failures have probably been due to contraction after the operation. To avoid this, I use a glass stem pessary about the size of a No. 20 or 21 steel sound (French). This is two inches long and only slightly curved, terminating in a button-shaped extremity, which prevents it from entering the canal too far. It is introduced after the dilatation is complete, being kept in position by a tampon of cotton in the vagina. During the first twenty-four or forty-eight hours it will be found that the stem is grasped firmly by the cervix, but after this it becomes relaxed, and the stem is apt to slip out.

The patient is kept in bed in a recumbent position for a week, the stem being removed every day or two, cleansed and replaced. The tampon which holds the stem in position is saturated with glycerine, which, by depleting the tissues, relieves the irritation produced by the operation.

If there is much rigidity of the os with congestion, I use one or two applications of the glycerine tampon two or three days apart before the operation, which relaxes the cervix, renders the dilatation easier, and lessens the irritation produced by it. The patient is directed to remove the tampon after twenty-four hours, by pulling on the string which is attached to it, and to use vaginal injections of hot water freely.

A. H. Goelet, M.D.

243 West 54th St., New York.

COCAINE AS A LOCAL ANÆSTHETIC TO THE EYE.

To the Editor of The Medical News.

Sir: I notice that several observers report in your last issue their experience in the use of muriate of cocaine. I think that the best results may be obtained from its use if the interval between the first instillation, in eye cases, and the first step in the purposed operation is not so long. So far, in my experience with its use in ophthalmic surgery, the best method of application is as follows: Wash the conjunctival surface of the eye to be operated upon by flushing it with a solution of boric acid, one to twenty-six. Then drop two or three drops of the four per cent. solution of the cocaine upon the scleral conjunctiva beneath the upper eyelid, the eye in the meantime being turned downwards. In two or three minutes instil two or three more drops. Repeat the instillation four or five times in the course of fifteen minutes, and make the first cut in the proposed operation immediately after the last instillation, if conjunctival sensitiveness is gone. I have seen the sensitiveness of the conjunctiva fully restored in less than fifteen minutes from the first instillation, when complete analgesia had been present. So far as my present experience goes, I would advise that the agent should be employed "blow upon blow" with shorter intervals than some of the observers quoted in your columns would seem to approve of.

C. R. Agnew, M.D.

New York, November 8, 1884.

NEWS ITEMS.

MONTREAL.

(*From our Special Correspondent.*)

The Lunatic Asylums of the Province of Quebec.—Public opinion here has lately been much excited by the publication, in the October number of the *Canada Medical and Surgical Journal*, of a report by Dr. Hack Tuke, the well-known English alienist, on the lunatic asylums of the Province of Quebec. Dr. Tuke contrasts the condition of affairs existing in this province, in regard to the treatment of the insane, with that of Ontario. For the latter he has nothing but praise; for the former little else but censure. The system of farming out the lunatics, at so much a head for a series of years, which is in vogue in Quebec, he unhesitatingly and strongly condemns. He visited the asylum at Beaufort, managed by private individuals, and that of St. Jean de Dieu, at Longue Pointe, near Montreal, controlled and owned by a society of nuns. He found both asylums overcrowded and the buildings utterly unsuited for the lodgement and treatment of the insane. Dr. Tuke was astonished to find the rigorous and cruel restraint of a century ago still the favorite method of treatment in these institutions. He saw many patients with straight-jackets, mittens, manacles, and anklets, others strapped to chairs—body, hands, and feet—simply as a matter of economy to prevent them tearing their clothes and to lessen the number of attendants. Dr. Tuke remarks that he rarely saw anything more depressing than the condition of the patients in the refractory wards, which are situated in the highest story, under the roof. Here he found the wards much overcrowded and without sufficient ventilation. Many of the patients were confined in dark cells, some quite naked, others clothed, but having nothing to lie or sit upon but the bare floor or perhaps a loose paillasse. They were most of them manacled. The narrow corridor which served for day-room exercise and recreation ground was also crowded with patients restrained by handcuffs, manacles, or strapped immovably to restraint-chairs. He calls this part of the asylum of St. Jean de Dieu the "chamber of horrors"—a veritable pandemonium and human menagerie. Both asylums Dr. Tuke found clean and orderly, especially in the lower stories, but he was surprised to find that there was no resident medical officer in either institution.

The Longue Pointe Asylum is visited twice a week by the government visiting physician. This gentleman, who is a well-known alienist, has power only to admit and discharge patients, but has no voice in their management, treatment, or hygienic surroundings. The nuns themselves decide which patients are to be put under restraint and which ones are to be left free. True, they employ a medical man, who is the local village practitioner and has no special knowledge of the treatment of the insane. He was appointed simply because he happened to live in the neighborhood and to comply with the law which requires them to employ a *competent* physician. Considering the absence of treatment, and the effects of rigorous restraint, it is not to be wondered at that the number of patients discharged cured is small and the death-rate is large.

On the publication of Dr. Tuke's report, all the English daily papers copied from it largely (some printed it in full), and they all commented severely on the deplorable condition of affairs which the report revealed. The French press were silent for some time, when a couple of the more liberal papers printed portions of the report and mildly asked for some sort of government investigation. The majority of the French papers, however, without even publishing anything but the most garbled extracts from the report, denounced Dr. Tuke as a vile calumniator, a Methodist and fanatic, a Protestant conspirator and a maniac, for daring to find fault with any institution managed by sisters of charity. They asserted that *Les Sœurs c' est bien l'incarnation de la providence de Dieu*, which was sufficient answer, in their opinion, to confute all the charges made in Dr. Tuke's report. Some of the comments are very amusing. One very ultramontane paper said that, like Empedocles, who jumped into the crater of Ætna to gain immortality, so Dr. Tuke, finding no other means of attaining fame, had made up a slanderous, malevolent, and untrue report of the condition of one of the Church's noblest and best-managed charities—one which had been greatly praised for its efficiency by authorities from all parts of the world.

The state of affairs which Dr. Tuke describes as existing in the asylum of St. Jean de Dieu (Long Point) was well known to many of the medical men here who had visited the institution. The *Canada Medical and Surgical Journal*, several years ago, in a series of able editorials, exposed fully the abuses which the contract system entailed, but no notice was taken of this exposure by the secular press; it remained for a man of Dr. Tuke's reputation to arouse public opinion sufficiently to take some interest in the condition of the insane in this province. I may say, in this connection, that the government visiting physician to the St. Jean de Dieu asylum has frequently sent in to the government elaborate reports, condemning the system, which have never been published; and it is stated that one of the government inspectors has frequently notified the government of the abuses existing in these asylums, but that his reports were suppressed, the government fearing to incur the enmity of a church which is so politically powerful by disturbing the peace of an institution managed and owned by one of its religious orders.

It is said that when Parliament meets the Liberal opposition intend demanding an inquiry into the state of the lunatic asylums of this province. The result of this inquiry is very likely to depend entirely on the political and religious complexion of the commission appointed. The Montreal Medico-Chirurgical Society are shortly to hold a meeting to consider the abuses which exist in the lunatic asylums and to suggest a remedy.

CHOLERA IN NAPLES.—The U. S. Consul at Naples, under date of October 13th, reports an unexpected increase of the cholera epidemic at that place, particularly among the miserable inhabitants of Mercato, Pendino, and Parto. On the evening of Thursday, October 8th, the official bulletin, for the twenty-four hours ending at 4 P. M., reported but 18 cases and 9 deaths, and the improvement was a matter of great rejoicing among the people, the fact being celebrated by some in an unwise manner. Thursdays, during this month, have been observed by the poorer classes as pleasure days—October in Naples usually being beautiful weather—and on these days the poor and working classes spend their days and evenings in the country, eating and drinking and feasting. At this season the vintage is at its height, and the large supplies of new wine are eagerly consumed by the people. In this wine the process of fermentation has not been complete, and the result of copious drinking the same are the usual choleraic symptoms.

In accordance with the custom, half of Naples (those from the most unhealthy sections of the city) were celebrating on the 8th of October (Thursday), eating and drinking as they had not done for some time past; singing funeral dirges of the cholera, and indulging without stint in new wine. The result, in twenty-four hours, was that new cases rose to 122 and deaths to 45. It was then that the authorities ordered the "bettole" (taverns) to be closed on Thursdays in this month, and also on Sundays and Mondays. On the following Sunday the new cases fell to 97 and deaths to 48; on October 13th, there were 90 cases and 28 deaths.

The decrease in number of cases and deaths last week brought confidence and relief, and the trains are again running between Naples and Castellemare; fumigations at Nice have also been abandoned.

The total number of deaths from cholera in Naples, from the beginning of the epidemic to midnight on the 10th of October, is given at 1327, out of some 6042 cases, in a population of 450,599.

There is a revival of trade between Naples and the United States, the shipments through the Consulate from September 1st to date having been $160,401.96 in value.

THE COMMITTEE ON THE ORGANIZATION OF THE INTERNATIONAL MEDICAL CONGRESS TO BE HELD IN WASHINGTON IN 1887.—At a meeting of the Committee charged with the organization of the Washington Congress, held in New York last month, the Committee added to its number, and it is now constituted as follows:

Drs. George C. Shattuck, James R. Chadwick, of Boston; Austin Flint, Sr., L. A. Sayre, A. Jacobi, of New York; T. F. Rochester, of Buffalo; I. Minis Hays, S. Weir Mitchell, J. M. Da Costa, of Philadelphia; Christopher Johnson, W. C. Van Bibber, of Baltimore; S. C. Busey, of Washington; R. A. Kinloch, of Charleston; H. F. Campbell, of Augusta; J. G. Thomas, of Savannah; J. G. Richardson, of New Orleans; W. W. Dawson, of Cincinnati; D. W. Yandell, of Louisville; N. S. Davis, Hosmer A. Johnson, of Chicago; George J. Englemann, of St. Louis; L. C. Lane, of San Francisco; John S. Billings, U. S. Army; J. M. Browne, U. S. Navy; R. P. Howard, of Montreal, Canada. We are informed that the full Committee will meet in Washington at the end of this month.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 4 TO NOVEMBER 10, 1884.

SPENCER, W. C., *Major and Surgeon.*—Ordered to Fort Trumbull, Connecticut, for duty as Post Surgeon, relieving Assistant Surgeon Wm. J. Wilson, U. S. A., who will report at Department Headquarters, and await further orders.—*S. O. 227, Department of the East*, November 5, 1884.

WILSON, WM. J., *Captain and Assistant Surgeon.*—Granted leave of absence for four months, with permission to go beyond sea, to take effect when his services can be spared by his department commander.—*S. O. 262, A. G. O.*, November 7, 1884.

COHISIER, W. H., *Captain and Assistant Surgeon.*—Ordered to Fort Grant, Arizona Territory, for duty as Post Surgeon.—*S. O. 102, Department of Arizona*, October 30, 1884.

HOPKINS, WM. E., *First Lieutenant and Assistant Surgeon.*—Ordered to Fort Lowell, Arizona Territory, for duty as Post Surgeon.—*S. O. 102, Department of Arizona*, October 30, 1884.

EGAN, PETER R., *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Fort Lowell, Arizona Territory, and ordered to Fort Bowie, Arizona Territory, for duty as Post Surgeon.—*S. O. 102. Department of Arizona*, October 30, 1884.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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ORIGINAL LECTURES.

AN ADDRESS IN OBSTETRICS AND GYNECOLOGY.

Delivered at the First Annual Meeting of the New York State Medical Association, November 19, 1884.

BY T. GAILLARD THOMAS, M.D.,

CLINICAL PROFESSOR OF DISEASES OF WOMEN IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

MR. PRESIDENT AND GENTLEMEN—FELLOWS OF THE NEW YORK STATE MEDICAL ASSOCIATION: If I interpret aright your wishes in requesting from me an address on obstetrics and gynecology on the occasion which brings you together in this city to-day, you desire, at the hands of one who has paid more attention to these subjects than the general reader and practitioner, an estimate from his standpoint of the present status of these departments of medicine, their relations to other branches, the advances which the past decade has accomplished for them, and the most signal lines of progress which have been pursued in the accomplishment of such advancement. If my conception of your wishes is correct, my task will not prove a difficult one, nor shall I be forced to weary you with prolix and uninteresting details.

Pardon a passing reference to the infancy of the science of obstetrics, which will serve merely to remind you of facts which you know as well as I do. Obstetrics as an art must always have existed, even among savage nations, and as civilization and refinement have increased, this art has become ever more and more perfect, keeping pace, as other arts have done, with the general advance in a people's knowledge. And thus it is that obstetrics, advancing from the ages of the past, from the period of the wonderful old man of Cos to that of Smellie and Levret, existed as a very perfect art indeed. But it was in no wise a science. He who was to elevate it to this high sphere was found in the person of the great Englishman, William Hunter, whose admirable work upon the gravid uterus did for this department of medicine what the eminent labors of Euclid did for mathematics, and which exists to-day as a valuable part of the library of every intelligent practitioner of midwifery.

From that time to the present a steady advance has been made, and in our day we see the reproach which once upon a time, and that not so very long ago, attached to the "man-midwife" entirely wiped away.

But all this has often been written of; let me leap over the wide chasm which divides two centuries from each other and speak of those improvements in this hundred-year-old science to which the past decade has given birth.

With how little pomp and parade are the greatest discoveries of science usually heralded! Who could have pictured to himself the wonderful results which were to follow the crude experiments of Count Rumford with steam; the watching of the swaying of a set of church lamps by Galileo; Newton's study under the apple-tree; or the flying of a Yankee printer's kite upon Boston Common? Yet the world has trembled and swayed under the results of these things, and mankind has felt their influence in every fibre and atom! In my judgment, one of the greatest achievements of modern pathology has been the discovery of the agency of certain lowly organized monads, micrococci, and microzymes, classed under the head of bacteria, in the production of septicæmia, pyæmia, and the long list of diseases which are their outcome. These atomic bodies, floating in the atmosphere, clinging to sponges and towels, and adhering to instruments and fingers, enter the blood through the open mouths of abraded surfaces. The prevention of the evil consequences of such entrance by the plans of Lister has accomplished a great deal for general surgery. Applied to obstetrics and gynecological surgery, the same methods are found to be fully as successful.

Progressive obstetricians are now pretty well agreed that the diseases which follow childbirth are due, for the most part, to the introduction of some contagium or poisonous element from without through the open mouths of exposed bloodvessels, laid bare by the parturient process, somewhere between the fundus uteri and the vulva. This theory once being accepted, it follows, as a natural deduction, that every means in the power of the obstetrician should be adopted for the prevention of the introduction of the morbific agents.

Even although the obstetricians of to-day are not prepared to make aseptic midwifery a rule wherever that art is practised, it is highly probable that in the very near future this position will be accepted. Even now this method, in modified form, is exerting a beneficial influence and steadily working its way to adoption in spite of the fact that it entails a good deal of trouble on the practitioner. That it can do no harm is quite evident. Does any man, can any conscientious obstetrician, maintain that strict cleanliness and the most scrupulous avoidance, so far as it lies in his power, of all things which can possibly admit of the entrance of the agents which in all probability produce puerperal septicæmia, will do any harm in the lying-in chamber? Supposing that only one life is saved out of a hundred deliveries, will any one assert that the saving of this one life would not repay him for the trouble which his preventive precautions have cost him? If the whole theory of the bacterial origin of puerperal fever is false, then in a quarter of a century from now all precautionary measures will disappear and the old *régime* will triumph. But if, perchance, this theory is valid and true, then no human power will prevent the realization of the prophecy that aseptic midwifery will be a rule as strict, as inviolable, and as obligatory as the aseptic surgery of amputations and of laparotomy is to-day. Look at the surgery of London, of Paris, of Vienna, and of New York of twenty years ago, with its unclean hands, its fatally dirty instruments, its death-laden sponges, and its foul air, with its terrible mortality, and then look at the surgery of those same cities to-day; and he will be a bold man who dares gainsay the statement that in another quarter of a century no one will venture to rise in a scientific body and declare that any efforts at perfect cleanliness in the lying-in room are superfluous or absurd.

To free the parturient act from the dangers of septic poisoning, to prevent that scourge, the so-called puerperal fever, suppurative arthritis, pyæmia, embolism, and septic inflammation of the lungs, liver, and other organs, would be to save millions of lives in every generation, and to raise the science of obstetrics to an enviable height.

The germ theory has done more for obstetric medicine than what I have here alluded to. It has revolutionized the treatment of that variety of septicæmia which has been called puerperal fever. No longer do we depend in the treatment of this affection upon quinine, opium, and the application of emollients over the abdomen. By intrauterine injections the cavity of the uterus is thoroughly and repeatedly washed out with solutions of the bichloride of mercury 1 to 2000, or with a two and a half per cent. solution of carbolic acid. Surely no one who has experience in the new and the old methods will cavil at my statement that a great improvement has been effected by the former.

Were I called upon to sum up the treatment of a *declared undoubted* case of puerperal septicæmia, marked by the usual symptoms of pulse of 120, temperature 105° or 106°, which would meet the requirements of our time, I should give it categorically thus:

1. Quiet all pain by morphine hypodermically.
2. Wash out the uterine cavity with antiseptics.
3. Lower the temperature at once below a hundred, not by the barbarous method of the cold bath, but by the far better one of the coil of running water.
4. Feed the patient upon milk and nothing else, unless some good reason exists for changing it.
5. Exclude from her room all except the nurse and doctor, keeping her as quiet as possible.

Although the subject of extrauterine pregnancy has attracted attention from the earliest days of medicine, it is only of late years that it has been carefully studied, its diagnosis put upon a firm basis, and its treatment systematized. Laparotomy, with its wonderfully beneficent results, has been brought to bear upon these cases before and even after rupture of the vicarious fœtal nest. By this procedure, Jessup, of England, has succeeded in delivering at full term a child developed in the peritoneal cavity and saving at the same time the mother; and by it Tait, of the same country, has saved four women after the fœtal sac has ruptured. But it is to the fœticide powers of the electric current, first used by Allen, of Philadelphia, and then by Landis and Reeve, that the safety of such cases can best be trusted. This method is harmless to the mother, even if an incorrect diagnosis be made, and effectual in producing fœtal death if the diagnosis be correct. The number of lives which have already been thus saved is quite large, and is daily increasing. And these are lives which in former times would have been sacrificed to inattention, or want of power in diagnosis, or a lack of reliable remedial measures, even if diagnosis were rendered pretty certain.

It must not be supposed that in the olden time no cases of extrauterine pregnancy were saved. In making my statement I allude only to the systematic management of cases in their early periods, both as to diagnosis and treatment. In this country, even as early as 1759, Dr. John Bard successfully performed gastrotomy for the removal of a full-grown child from the peritoneal cavity. Dr. Baynham did so twice—once in 1791 and again in 1799; and Dr. John King, of Edisto Island, South Carolina, in 1816, cut through the vagina at full term, applied the forceps through the opening, and safely delivered a slave woman of a child which was developed in an abdominal pregnancy. But at that time, and long afterward—until our own times, I may say—the early diagnosis and early treatment of tubal pregnancy were found to be impossible. To-day, given a woman whose symptoms of pregnancy are irregular, who suffers pain in one iliac fossa, who has sudden gushes of blood, and who is subject to occasional attacks of faintness, and every intelligent practitioner would at once examine with reference to the existence of ectopic gestation, and, discovering it, would promptly proceed to destroy the fœtus in its false uterus.

Some one has very pithily said of late that the medicine of a hundred years hence will consist chiefly of prophylaxis and surgery. It appears to me that the statement, which has more than one grain of truth in it, applies with great force to our subject of to-day. The day is, I feel sure, not far distant when preventive measures will be applied with a most triumphant result to placenta prævia, puerperal nephritis, placental apnœa, contracted pelvis, the obstinate, and often fatal, vomiting of pregnancy, and that extreme hydræmia which so often results in thrombosis.

Obstetricians are beginning to question themselves as to whether it is wiser, in the interests of both child and mother, to wait and watch during the last two months of pregnancy until a sudden and furious hemorrhage makes an issue unavoidable in placenta prævia, a convulsion announces the point of tolerance in puerperal uræmia, or the cessation of fœtal movement tells the tale that the crippled intrauterine lung has ceased to have power enough to prolong fœtal life. The methods of inducing premature labor are now so simple, so certain, and so void of danger that they, more than at any previous time, present themselves as a sovereign resource in such cases.

And this is more especially true since Tarnier, by his glass-house with heated air regulated so as to meet the feeble heat-making process of the premature infant, renders the perpetuation of the lives of these beings so much more certain than when they were exposed to the chilling draughts of the chamber, and perhaps were at once dipped in water and exhausted by washing and dressing.

How often has every man in this room watched with intense interest and anxiety the following picture! A mother of several children, a beloved wife, and the centre of a large circle dependent upon her for love, for care, and for counsel, about the end of the seventh month develops the symptoms of placenta prævia, or severe puerperal nephritis. The physician cannot conceal from those who surround her the fact that a violent hemorrhage or sudden convulsive seizure may at any moment destroy life. Should one of these occurrences take place, the patient's friends know full well that it may be hours before medical aid can be obtained in their dire necessity. Day after day the painful process of watching, hoping, dosing goes on; and gradually the symptoms grow worse until the final issue comes, and great joy is felt if, the child being sacrificed, the mother survives. It is to save all this, at the expense only of exposing the child to the danger of premature birth—a child, too, whose life would be at great hazard even if the pregnancy were allowed to proceed—that premature labor offers itself as a valuable resource.

The obstetric forceps is probably the most life-saving instrument which surgery has ever invented; and from the time of the Chamberlens, about 1647, thousands in every generation have endeavored to improve it, thousands have handed down their names in connection with it by suggesting trivial modifications, and thousands have in their efforts rendered themselves butts for the laughter of their successors by reason of the vanity which guided them. Few, very few, real improvements have been made in these instruments, and these improvements have occurred at long intervals. The Chamberlens used short, straight forceps; Levret and Smellie added length, and gave a pelvic curve to these, and nearly, if not quite, doubled their value; and Tarnier, of France, has, in our day, added a pair of tractors which enable the operator to pull more accurately in coincidence with the superior strait, while the handles are still in the inferior. This is the only real improvement in these instruments since the days of Levret and Smellie, and, like theirs, it marks an era in the history of the instrument, and a mile-stone in its advancing usefulness. There are cases, many cases, in which it is not called for; there are some, and not a few, in which it gives great facility in delivery.

Of late two substitutes have been proposed for the Cæsarean section—extirpation of the gravid uterus and its annexa after delivery of the child from it, or Porro's operation; and delivery of the child above the superior strait of the pelvis by cutting through the abdominal walls and vagina, or laparo-elytrotomy.

R. P. Harris, the only great medical statistician that America has yet produced, reports, in October, 1883, that the combined Porro and Porro-Müller operations saved, out of 116 cases, $48\frac{8}{29}$ per cent. of mothers, and 90 out of 118 children. Garrigues, in an able and exhaustive essay, reports in the same year that, out of eight operations, laparo-elytrotomy saved half of the mothers and all of the children except two, who died before the operation was undertaken.

In general terms, I think that, to state the comparative success of the two operations, it must be said that the results of laparo-elytrotomy have thus far been superior to those of the Porro-Müller operation, but that for some inexplicable reason the latter has found favor with the profession, both in this country and in Europe, which the former has failed to obtain.

From my experience with laparo-elytrotomy, I feel certain that, if a fair trial is given to it, it will surely yield a success greater than either the Cæsarean section or the Porro-Müller operation. It is so easy of performance, inflicts so little injury upon important viscera, and has already proved so successful, that I cannot doubt its merits.

We must not conclude that, because the general professional mind is not favorable to an operation which has been little tried, such an operation has "been weighed in the balance and found wanting." The following examples will prove the contrary: In 1834, Gossett, of London, discovered the present operation for vesico-vaginal fistula—position, metal suture, speculum, and all—operated twice, and published his operations. Yet it was left for Marion Sims, in 1852, to rediscover the whole matter. The greatest advance which has been made in medicine during the present century is the application of clinical thermometry, and its adoption is, as you all know, quite recent. Yet, about one hundred years ago, Currie, of England, fully developed this invaluable contribution to scientific medicine merely to see it pass out of notice and yield no results. And these are by no means the only instances of want of appreciation which can be quoted. I do not, therefore, despair of laparo-elytrotomy, but, from my personal knowledge of its advantages, am very hopeful of its future.

A little over a month ago Dr. Pilcher, of Brooklyn, having under his charge a case of labor in a deformed woman, aged twenty-one years, in good health, but with a rachitic pelvis, giving in its antero-posterior diameter of the superior strait a measurement of two inches, sent for Dr. Skene to aid him. After she had been in labor eight hours, Dr. Skene, with his well-known skill, performed laparo-elytrotomy and delivered her of a living child. To-day both mother and child are perfectly well, the after-history of the former being entirely uneventful, the wound healing by first intention, and the patient sitting up on the twenty-first day. It gives me great pleasure to avail myself of Dr. Pilcher's kind permission to report this, as yet unpublished, case to you to-dav. And now, in all candor, let me ask you if a procedure which has effected such a result repeatedly, both as regards mother and child, should not be at least fairly tried before it is cast aside among the failures of obstetric surgery.

From the earliest records of medicine in Egypt, of Greece, and of Rome, the practice of gynecology can be readily traced, and although, like all other learning, it became paralyzed by the baneful influence of the dark ages, it was upon the revival of letters at once pursued. Before the middle of the present century, however, it did not in any respect deserve the name of a science. About that time, through two influences—the speculum, which since the days of Récamier had slowly worked its way into use, and anæsthesia, which enabled the surgeon to perform operations, both tedious and painful, upon the genital organs—the science of gynecology passed in great degree out of the domain of medicine, with its uncertain theories and doubtful resources, into that of surgery. And from that day a new era has existed for this department of medicine which has given it a place among others, not only of respectability, but of dignity.

I know not what view others may take as to the influence which has had so great a result upon gynecology as all have seen exerted during the past quarter of a century, but, in my judgment, it is the bringing into the service of the department the powerful aid of surgery.

Let me beg you to observe that I am not urging the claims of surgery at the expense of those of constitutional treatment in gynecology. Far from doing this, I am a strong advocate for the great advantage of constitutional treatment in diseases of the pelvic viscera of the female. There is no more clashing between medicine and surgery here than there is elsewhere; they should work together for good, the one sustaining and supplementing the other. Nevertheless, I fearlessly assume the position that an enlightened, conservative surgery is the pivot around which is to revolve the gynecology of the future, and that, were surgery withdrawn from this department to-day, it would be emasculated of the greatest part of its usefulness and efficiency, and would gradually lapse into the condition which it occupied half a century ago.

Every virtue has a vice which so closely corresponds to it, and so nearly resembles it upon superficial examination, that the real and the false are often confounded. Vanity often simulates modesty; cold policy passes current for charity; even arrogant pride is not rarely mistaken for humility. In medicine, cant, for there is cant in medicine as there is in religion, in politics, and in all other spheres in which the mind of man works, is often mistaken for that most laudable and meritorious of medical qualities, conservatism.

When vaccination was introduced, a great deal of medical cant was talked; and so when the pains of labor were first assuaged by chloroform; when ovarian tumors were submitted to laparotomy, and thousands of valuable lives were yearly saved; and so, also, when the obstetric forceps was put upon its proper basis as an instrument to be resorted to in the interest of mother and child before the symptoms of powerless labor had absolutely developed themselves. When, through the instrumentality of Simpson, Sims, and Simon, surgery was introduced into gynecology, a jeremiade was inaugurated, the echoes of which are only now dying away like the grumblings of a recent storm. Those who practised gynecological surgery were accused of recklessly mutilating the most beautiful of God's creation. Their conservatism was impeached, their judgment was impugned, their honesty was attacked. And what has been the outcome of the controversy? what is the present status of the moot question? By the aid of gynecological surgery, thousands of women, who formerly filled beds of suffering throughout their menstrual lives, are now in a month or two restored to perfect health; thousands who were doomed to early death are saved; thousands who for weary years visited the offices of one, and then another, and still another physician, resisting the powers of general tonics, and nitrate of silver, and potassa fusa, and the actual cautery, are now quickly enabled to perform all the duties of life without exhausting their resources by yearly stipends to the medical man. A woman suffers from profuse leucorrhœa, and backache, and difficult locomotion. Formerly she would have gone, times without number, to her doctor's office to have caustics applied to the ulcer of the neck of the womb, until he got tired of her or she of him. Now a lacerated cervix is cured by Emmet's great operation, and a limit is put to her patience and her husband's capacity to bear expense. A young woman, whose terrible sufferings at menstrual periods have half-crazed her, made her nearly an opium-eater or gin-drinker, and almost transformed her into one of those social vampires who suck the sympathies and vital force of a whole family in place of blood, instead of living on, a libel upon her sex, is cured by Battey's operation and restored to her place in life. Another, who has had the accident of lacerated perineum inflicted upon her by parturition, instead of passing her life in "ringing the changes" upon all the varieties of pessaries known to art, is cured by perineorrhaphy or colporrhaphy. And still another who, perchance, for twelve years has had an issue of blood, and who has suffered many things of many physicians, and has spent all that she had and was nothing bettered, but rather grown worse, after having exhausted all the hæmostatics and oxytocics and astringents, has a loop of wire, called a curette, carried into the uterine cavity, and fifteen or twenty fungoid growths, about as large as grains of barley, removed, and straightway the fountain of her blood is dried up.

Surely the time is at hand when the gynecological surgeon may boldly say to his detractors, "Enough of this, the logic of events condemns your futile efforts," and to those in his own department, "he who is not prepared to give his patients the advantages of surgery, either at his own hands or those of another, is not prepared to act honestly and fairly by those who intrust their interests to his keeping."

The pathological conditions which most frequently result in that chain of symptoms which mark the pelvic diseases of women may, I think, be fairly tabulated in the following manner:

1. Injuries received during parturition.
2. Natural or acquired imperfections of the uterus and ovaries.
3. Displacements of the uterus.
4. Benign neoplasms in the uterus, ovaries, or annexa.
5. Tubal and ovarian diseases.
6. Uterine catarrh.
7. Hyperplastic development of the endometrium.
8. Neuroses, such as vaginismus.
9. Inflammatory disease of the pelvic areolar tissue and peritoneum.
10. Malignant disease of the uterus or ovaries.

It may safely be said that in almost all of these a resort to surgical interference is often an essential to cure, while in most of them it is absolutely so.

No surgical procedure has more profoundly excited the interest of gynecologists during the last decade, and I may add that none has done more good, than the operation of trachelorrhaphy. That its future sphere of usefulness is a large and brilliant one, no one who has studied its results without prejudice, at the bedside, can for a moment doubt. May its originator long live to enjoy the evidence of the good which his labors have accomplished, and will continue for all time to effect.

Extirpation of the ovaries for three purposes: 1. For effecting a premature menopause; 2. For checking the growth of large fibroids; 3. For removal of ovaries and Fallopian tubes for hydro- and pyo-salpinx, and resulting pelvic inflammation—has now become a well-recognized and accepted resource in gynecology. The originators of these operations, for they really differ from each other in many essential respects, are Battey, Hegar, and Tait. So great are the benefits resulting from these procedures in the various conditions for which they are practised that nothing can now stop their advance.

Nevertheless, as I look to-day into the future of any operation for removal of the ovaries, I see it the instrument of great abuse; I see it performed in numerous cases of mental disorder aggravated by the menstrual molimen in which it will fail of result; in many of uterine disease which could without its aid have been cured by care, patience, and skill; and in a great many cases in which diagnosis is obscure, and in which a resort to it is, to say the least, empirical. But I see opening before it, in the future, also a wide, very wide, field of usefulness; I see cases of women, doomed not only to misery themselves, but dooming whole families to life-long discomfort and anxiety entirely relieved by it; and I see many instances in which without it the curses of opium-eating and dipsomania, which frequently ingraft themselves upon the monthly recurring dysmenorrhœa, lifted by it from moral death to lives of happiness. Are we to reject agents capable of great good because by misdirection they are likewise capable of great evil? No; let us hail the good and apply it to man's wants, and let us strive as best we may to limit and control the evil which we cannot wholly avoid. No one can doubt that numberless evils have attended upon the discovery of gunpowder, yet no one can be blind to the fact that that discovery has done a vast deal for the advancement of civilization and the best good of mankind.

Even as early as the year 1560 Andreas à Cruce is said to have removed the uterus *per vaginam* for carcinoma uteri, and it is probable that even before his time Soranus had performed this desperate operation, which taxes in our day the skill, boldness, and resources of the surgeon. During the eighteenth century the operation was several times performed, and in 1813 Langenbeck had a successful case. In 1829 Récamier made improvements in it, and in 1878 Czerny revived the operation and placed it upon a firm basis. In 1883 Langer published the following statistics of the procedure:

Vaginal extirpation of cancerous uterus, .	133
Recoveries, ...	95
Deaths, ...	38
The percentage of deaths being, . .	28

In 1884 P. F. Mundé published statistics of 256 cases, with a mortality of 24$\frac{8}{10}$ per cent.

Freund, in 1878, revived the operation of the removal of the uterus by abdominal section, a procedure put in practice by Gutberlat as early as 1825. Freund's operation has now been performed 106 times, with a result of 72 deaths and 34 recoveries.

Not to detain you longer upon the present status of these two heroic procedures for desperate conditions, I would sum up the matter by the statement that Freund's operation, by reason of the great difficulties and dangers which attend its accomplishment, is now relegated to disuse; while vaginal extirpation of the uterus, although acknowledged to be a procedure of great danger, of undoubted difficulties, and of questionable results, has conquered for itself the position of a recognized, legitimate, and even valuable procedure.

An operation which ends fatally in one-quarter of all the cases submitted to it is a procedure of questionable character, of course; but let him who feels disposed to question the justice of the estimate here given remember the terrible future which inevitably attends upon the progress of uterine cancer—the physical suffering, the mental distress, the disgusting concomitant circumstances—and he must admit that any operation which has the power, even at the imminent risk of death, to lessen or remove these, should be hailed as a precious resource!

Uterine extirpation for cancer, however, is one of the most difficult and dangerous of the resources of surgery. As a compromise measure, removal of the entire neck by a conical section extending even up to the fundus uteri, and subsequent closure of the cervical lips by suture, often supersedes it with great advantage.

Deformities of the uterus which alter its shape, impair its nutrition, and interfere with the perviousness of its canal, have long been recognized as grave pathological factors; and even in our day the most sanguine practitioner must admit that their treatment is difficult, uncertain, attended by the dangers of cellulitis and peritonitis, and unsatisfactory to a lamentable degree.

At the present day there are three methods by which uterine deformities—anteflexion, retroflexion, and lateroflexion—are treated: First, the misshapen organ is repeatedly forced into better form by the introduction of the uterine sound, and subsequently it is in a lame, uncertain fashion sustained by a vaginal pessary; second, the tortuous cervical canal is cut at the internal and external os, and a uterine stem is introduced and kept in place by a sustaining vaginal cup; and, third, the whole uterine canal is at one sitting distended by a powerful "divulsor," or expanding forceps, to as great an extent as the tissue of the organ will bear. The first two of these methods are well known to you; it is the last I would now bring to your notice.

The heroic nature of this operation, its apparent brutality, and the dangers which one would naturally fear as a consequence of the forcible stretching of uterine tissue, which is really equivalent to absolute tearing of it, has retarded its advance to the position of an accepted operation. Its introducers and chief endorsers have been Priestly, Borck, Ball, and Ellinger, all of whom have claimed for it not only excellent results in cases of uterine deformity, but also a very marked immunity from the accidents which one would fear from it. In this city Dr. W. Gill Wylie has reported very favorably of it, and Prof. Goodell, of Philadelphia, has recently published a paper upon it which, with the strong endorsement of his name, will go far toward rendering it popular, and exciting others to a fairer trial of it than it has yet received. Personally I have no experience of it worth reporting, but I certainly feel it a duty to test the question of its use fully from the evidence which we now have before us.

In connection with my subject I would mention four drugs which have of late been introduced into practice, all of which appear to me to possess sufficient value to warrant their special mention here. These are the permanganate of potash, and the fluid extracts of the stigmata and ustilago maidis of the *Viscum album*, of the *Viburnum opulus* and *Viburnum prunifolium.*

Permanganate of potash, introduced by Sydney Ringer, of London, as an excitant of the menstrual flow, is, I think, the best emmenagogue which has yet been discovered. The stigmata and ustilago maidis, or ergot of corn, are, like the fluid extract of *Viscum album*, or mistletoe, excellent oxytocic agents, and replace the ordinary secale cornutum very well, not only during labor, but in causing uterine contraction for the relief of metrorrhagia, uterine fibroids, subinvolution, etc.

The medicinal virtues of the *Viburnum opulus* and *Viburnum prunifolium* appear to consist in an influence of sedative character upon the utero-ovarian nerves. These drugs have been greatly lauded as preventives of threatened abortion, and remedies for the pains which attend disordered menstruation. Although in my experience they have fallen far short of the excellence which has been claimed for them, I feel sure that they possess a considerable degree of virtue.

Although the prolific theme which you have allotted to me, Fellows of the Association, would readily afford me material for a much longer address, the fear of taxing your patience admonishes me of the propriety of bringing my remarks to a close. In doing so, let me beg of you to accept my thanks for the kind attention which you have accorded me—an attention which has given zest to my efforts and rendered my task a pleasure instead of a labor.

ORIGINAL ARTICLES.

PERMANGANATE OF POTASSIUM: ITS ACTION AND USES.

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THERE is a general feeling of uncertainty regarding the real value of the permanganate of potassium as a remedy. Sharing in this to some extent, and desirous of arriving at definite conclusions, I have undertaken to collect the available evidence. This consists, chiefly, of clinical observation, and my own has been supplemented by such published experiences as have rewarded my search of authorities.

The prime objection of contemporary writers is, that permanganate is so quickly decomposed on coming into contact with organic matter, that its powers must then cease. I have, however, given reasons for supposing that the diffusibility of this salt is so rapid, that it has some action on the blood. For example: When used locally for the bite of a venomous serpent, the poison is destroyed, notwithstanding the organic matter in which it is enclosed. Before discussing its actions and uses, its physical and chemical qualities should be stated.

According to the United States Pharmacopœia, permanganate of potassium occurs in "deep, purple-violet, or nearly black, needle-shaped rhombic prisms, of a metallic lustre, permanent in the air, odorless, having a sweet, afterward disagreeable, astringent taste, and a neutral reaction. Soluble, with the exception of a scanty brown residue, in 20 parts of water at 59° Fah. (15° C.), and in 3 parts of boiling water."

According to the new notation, permanganate of potassium is represented by the formula $K_2Mn_2O_8$; and to the old, $KO.Mn_2O_7$. It is remarkable for the quantity of oxygen which it contains, and for the readiness with which it yields it up in its most active form, or as ozone;—yields it up so readily that it is one of the reagents used to determine the presence of organic matter in potable waters. This process illustrates one of the functions performed by permanganate of potassium in the human economy. The fine purple color of the solution of this salt in pure water is quickly discharged when brought into contact with organic matter; the oxygen seizes on and oxidizes the organic matter, and the permanganate is reduced correspondingly, the color changing to a dirty brown. It is this oxidizing power for which this salt is now employed as a deodorant and antiseptic.

The foul odors arising from decomposing organic matter are due chiefly to the compounds of hydrogen with sulphur and phosphorus—the sulphide and phosphide of hydrogen and some other products. The oxygen in its nascent state seizes on the hydrogen, and sulphur and phosphorus are set free, whence the destruction of odor. The chemical action which removes foul odors, does not, necessarily, imply the destruction of germs and other *materies morbi*. Bacteria, micrococci, and other minute organisms, so often associated with the ordinary products of putrefactive decomposition, are now known to be the cause of, or at least to convey, the poison of some diseases. Active oxygen, or ozone, or nascent oxygen, has an oxidizing or destroying action on some of these pathogenic agents, and hence permanganate of potasssum, whilst a deodorant, is also antiseptic.

Brought in contact with snake poison it destroys its toxic power. Thus, as Lacerda was the first to show, if inserted into the wound made by a noxious reptile, the poison is decomposed, and, consequently, has no effect on the system.[1] Lacerda, it is true, supposed that this agent would prove equally effective when administered by the stomach—that it would antagonize and render harmless the poison introduced at any point; but this supposition has proved to be erroneous. The effect of permanganate of potassium on animal poison is chemical; it is antidotal, but not physiologically antagonistic; and hence to be effective it must be brought into immediate contact with the poison, which is oxidized and its power thus destroyed.

Brought in contact with the tissues of the body, permanganate of potassium has an effect determined by the condition of the part. On the unbroken integument external and internal (mucous membrane), it does not have an irritant action, but the oxygen readily assails the uncovered tissue. It stains the skin a brownish color, and applied to an abrasion causes considerable smarting and burning, and is very superficially caustic. In small doses (two or three grains) well diluted, it does not irritate the stomach, but if the dose be large and in a solution too concentrated it causes local heat, a sense of irritation, even burning pain. The effect of a large dose, insufficiently diluted, is, doubtless, chiefly local; but if given in sufficient water on an empty stomach, diffusion into the blood probably takes place to some extent.

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[1] Bulletin Gén. de Thérap. Vol. 101, p. 325, and vol. 104, p. 556.

The systemic action of permanganate of potassium may be studied in several modes: the effect of the salt as a whole; the effects of its chief constituent, active oxygen or ozone.

It has been alleged that this salt cannot act beyond the stomach, because there its oxygen must be appropriated by the organic matter contained in that organ and the mucous membrane, but certain physiological and clinical facts support the opinion above expressed regarding its diffusion into the blood. Vulpian[1] has studied the effects produced by this remedy when thrown directly into the veins. This mode of experimentation is open to many objections. The bulk of the material injected into the veins, were it water merely, must, and as we know, does have an effect on the functions of the circulatory organs. Furthermore, the emboli produced by the chemical action of the salt on the formed elements and on the fibrin, must of necessity cause serious disturbances at widely separated points and in various functions. The results he noted were of two kinds, consisting of chemical changes in the blood, and the effects of the salt at the points of elimination. In the first category were pulmonary infarctions, dissolved corpuscles, bloody urine and ecchymoses; in the second, were congestion of the gastro-intestinal mucous membrane, and of the kidneys. Obviously such experiences are not characteristic, for they follow the injection into the blood of various chemical agents.

As the chief, if not the only therapeutic effects of permanganate of potassium, are due to its oxygen, it is most important to ascertain the effects of this agent. The modern investigations, especially those of Demarquay[2] and Hayem,[3] of France; Waldenburg,[4] of Germany; Birch[5] and Mackey,[6] of England; and A. H. Smith,[7] of New York, have thrown a flood of light on the actions and uses of this agent. More recently the researches of Binz[8] on the effects of ozone have been successful in clearing up much of the mystery surrounding the physiological actions of this peculiar form of oxygen. The results of the action of oxygen thus studied, are quite in harmony with *a priori* conceptions. On the most superficial view, it would be regarded as a vital stimulant, and as an agent promoting the activity of the combustion process in all parts of the body. This notion of its actions is supported by investigation made by the various observers above mentioned.

The recent studies of Binz[9] of the effects of ozone, are peculiarly instructive. He finds that ozone has a hypnotic action, a calmative effect on the central nervous system, due, he supposes, to an impression on the cells of the gray matter, whereby their functional activity is suspended. In some trials on his own person, he experienced the following results: his respiration became deeper and more easy and he had that feeling of well-being produced in the healthy by the respiration of a pure and exhilarating atmosphere. Some drowsiness came on, with an agreeable languor, and afterwards there was experienced some heaviness in the head (hebetude), together with a general sense of fatigue, but no other disagreeable sensations.

The powers possessed by the permanganate of potassium as a general stimulant are well exhibited in the active emmenagogue property which it has been shown to possess by Drs. Ringer and Murrell. In cases of amenorrhœa due to deficient activity, it seems to promote the function in a remarkable degree. The same power, which can so stimulate the sexual functions, must, when exerted in other directions, prove equally effective.

Mode of prescribing permanganate of potassium. As this salt is so readily decomposed, yielding up its oxygen to any organic matter present, it is obviously necessary to be very careful in preparing and administering it. It should be given dissolved in pure water, or in compressed tablets or pellets. I have used the compressed tablets of Messrs. John Wyeth & Brother, of Philadelphia, which contain no excipient, and are, therefore, entirely free from objection, the material being simply compressed without the addition of any foreign material. They are readily administered in this form, or they can be dissolved in pure water, whenever a solution is desired. These tablets are typically adapted to the purpose—indeed present advantages not possessed by any other possible mode of administration.

Ordinary distilled water after standing a few hours exposed to the air, begins to exhibit evidences of turbidity, due to the growth of an organism, a penicillum, and after some days it becomes so much clouded with organic matter as to be unfit for the solution of permanganate of potassium. River water or rain water boiled and filtered may suffice for immediate use, but whenever it can be obtained, fresh distilled water should be employed for this purpose. A pellet of this salt may be used to determine the requisite freedom from organic matter. Dropped into the water under examination, the beautiful violet color imparted to it should not be discharged. The prompt disappearance of the color signifies the presence of chemical agencies fatal to the permanence of the salt. The solution should be well diluted when taken, and should be given when the stomach is empty. A small dose repeated at short intervals, say a grain or two every half-hour, until four or six grains have been taken, is preferable to the exhibition of this amount at one dose. Given in this way, and commencing the administration in about four hours after meals, the diffusion of the salt into the blood is, probably, secured. There are two periods during the day, when the administration of the remedy can be practised—the proper interval after breakfast, and after dinner or luncheon The same considerations should govern the administration of the pellets or compressed pills, undissolved, and sufficient pure water should be taken after them.

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[1] Bulletin Gén. de Thérap. Vol. 102, p. 251.

[2] Essai de Pneumatologie Médicale, etc. Paris, 1866.

[3] Bull. Gén. de Thérap.

[4] Die locale Behandlung der Krankheiten der Athmungsorgane. Berlin, 1872. P. 620 *et seq.*

[5] The Therapeutic Action of Oxygen. London, 1857, and British Med. Journal, December 24 and 31, 1859.

[6] The Practitioner. Vol. 2, p. 278.

[7] The New York Medical Journal. Vol. 71, p. 152.

[8] Berliner klin. Wochenschrift, No. 43, 1882.

[9] Ibid., *op. cit.*

Therapeutic applications. On the chemical actions of permanganate of potassium we have a sure basis on which to construct a systematic therapy. The readiness with which this salt parts with its oxygen, is urged against its real utility as a remedy, but for reasons already given it is concluded that this action does not occur with sufficient promptitude to prevent its diffusion into the blood to some extent, otherwise we should in vain try to account for its practical utilty.

Having more or less irritating quality, permanganate of potassium is contraindicated in cases of acute inflammation of the stomach. It is specially indicated in chronic *gastric and gastro-intestinal catarrh*, accompanied by fermentative changes in the food. Eructations of gas, vomiting of a yeast-like material containing *sarcinæ*, and an acid fermentation of the starchy and saccharine constituents of the food, are relieved often very promptly by the administration of this salt. As the action is intended to be restricted to the stomach contents, the proper time for the administration of the remedy is two or three hours after meals.

When the catarrhal process extends into the duodenum, and involves also the bile-ducts, this remedy has seemed to be highly efficient. Beside the evidences of stomachal and intestinal indigestion there is present more or less biliousness, manifested in a muddy complexion, yellow conjunctiva, high-colored urine and a general *malaise* due to the presence in the blood of immature materials and unoxidized products of the retrograde metamorphosis. This is a very common state of things and is the result of several factors: improper feeding, catarrh of the gastro-intestinal and hepatic mucous membrane, and imperfect preparation of the food for absorption. The permanganate, in this condition of things, does good in several directions: it checks fermentation of the food elements prone to this process, acts favorably on the catarrh of the mucous membrane, but especially promotes oxidation in the tissues undergoing metamorphosis, and whilst it thus stimulates metabolism, helps to consume in the normal way the products of waste. Uric acid which appears in the urine, under the action of permanganate of potassium is converted into urea, the form in which it is normally excreted.

It follows from the foregoing considerations, that permanganate of potassium is a remedy of great value in *lithæmia*. Clinical experience is quite in harmony with physiological deductions. In giving this remedy in this affection, two purposes may be accomplished by it: the catarrh of the mucous membrane and the fermentation of the foods may be favorably influenced, and the insufficient oxidation manifested by an excess of urid acic in the urine, may be wholly relieved.

It follows, also, from the foregoing considerations that permanganate of potassium must be useful in an affection cognate to lithæmia—the hepatic form of glycosuria, and in this instance, again, clinical experience confirms physiological observation. The special field of its usefulness in relation to diabetes, is in those cases in which there appears to be both overproduction of glycogen, and insufficient consumption, or combustion, or oxidation of this material. It will be found most beneficial in the obese subjects of glycosuria, in whom the presence of much uric acid in the blood signifies at the same time inadequate preparation for absorption of certain food constituents and a supply of oxygen insufficient to convert uric acid into urea. In other forms of diabetes, especially of nervous origin, permanganate of potassium has no beneficial effect.

For the same reason that this salt is useful in lithæmia and glycosuria, it is a remedy for obesity. According to the observation of the writer, there is no remedy more effective than this in the treatment of *obesity*, and for the relief of the disorders of digestion which have a pathogenic relation to this malady. Of course, certain changes in the diet must be made and active exercise enjoined, but the good effects of the remedy are manifest without any aid from a change in diet and from exercise. The *methodus modendi*, is, so to speak, of the physiological order. The surplus and useless material, such as under existing circumstances is transformed into fat, is oxidized and consumed, and is excreted as carbonic acid and water. As it acts thus, to increase the performance of a function, obviously the curative effect is an exercise of a physiological power, and different from all the usual remedies for obesity, does not operate injuriously if used with the least discretion.

One of the most important therapeutical applications of the permanganate of potassium, and a recent discovery, is in the treatment of *amenorrhœa*. We owe this valuable improvement, as indeed many others, to Drs. Ringer and Murrell. They have shown that this remedy is remarkably certain when applied in suitable cases. Given in doses of two to five grains three times a day, for several days preceding the menstrual molimen, this agent is quite sure to start the flow. The kind of case to which the permanganate is adapted is that characterized by torpor, anæmia, or deficient activity of the menstrual apparatus. On the other hand, it is contraindicated whenever an acute congestion or a general condition of sthenic reaction exists. Confirmatory evidence has been offered in this country, as well as in England and on the Continent. For example, we find the following coming from Russia: Dr. S. M. Lvaff prescribed it in ten cases of amenorrhœa. In seven of these the remedy succeeded—the menstrual function was restored to its normal activity.[1] The good results achieved by the use of the permanganate in amenorrhœa induced Dr. A. V. Vargunin to essay its administration in *dysmenorrhœa*, characterized by scanty menstruation and anæmia. In this case, also, the result was fortunate, and complete relief was obtained.[2] Congestive or mechanical dysmenorrhœa are conditions not suitable for the action of such a remedy.

It is probable that *functional impotence* in the male will be improved by this remedy, provided the conditions present are those of anæmia and depression.

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[1] Medicinskt Vestnik, No. 43, 1883. Quoted.

[2] Vratch, No. 3, 1884. Quoted.

Topical and Disinfectant Uses.—Permanganate of potassium has long been known as a disinfectant and deodorizer. Since the agency of minute organisms, as bacteria, bacilli, micrococci, etc., in setting up septic processes in the body, has been established, the various substances employed as disinfectants have been assigned to different relative positions, for now the important point is to procure the death of the living germs and their progeny. An agent destroying foul odors does not necessarily, does not indeed usually, destroy the germs of disease.

The permanganate of potassium is to be classed with the "deodorizers" rather than with the "antiseptics." From this point of view it is an "elegant" disinfectant. In an elaborate research on the antiseptics and their power to destroy bacteria, Bucholtz[1] does not include this salt amongst the list of agents possessing the power to destroy bacteria and similar organisms. Again, M. Ratimoff,[2] in a paper on antiseptics and the results of their use in surgical practice, has, also, ignored the permanganate, not mentioning it amongst those agents that have true antiseptic power. The most thorough, and from the modern point of view the most scientific, treatment of the subject of antiseptics is the essay of Dr. Miguel.[3] He assigns permanganate of potassium to a group containing the salts of lead, zinc, nickel, and cobalt, alum, tannin, the mineral acids, and other agents. The first group is composed of "substances eminently antiseptic;" the second of "substances very strongly antiseptic;" the third of "substances strongly antiseptic;" the fourth of "substances moderately antiseptic;" the fifth of "substances feebly antiseptic," and the sixth of "substances very feebly antiseptic." Permanganate of potassium, in a list of 91 agents having qualities more or less antiseptic, stands 44, the bichloride of mercury being first. The important point, however, to be determined, in respect to the powers of any antiseptic, is its effect on the vitality of living germs or microbes. In the attempt to ascertain this quality of any antiseptic, certain precautions must be observed if the results are to possess any real value. These precautions have been well stated in a memoir of N. Jalan de la Croix,[4] whose experimental inquiry was conducted under the observation of Prof. Dragendorff.

Bacteria developed in different liquids do not possess the same power of resistance to the action of antiseptics; they resist more successfully when contained in their native fluid than when in culture solutions. The same facts are true of the spores, which are sterilized with more difficulty in their native element than when transplanted into foreign fluids.

Most of the experiments made have been with microbes contained in culture-fluids; for example, the very able and elaborate research made by Dr. Sternberg.[1] Under these circumstances the results are better than can be achieved from the use of the same antiseptics in disease, *cæteris paribus*. Sternberg assigns to bichloride of mercury (mercuric bichloride) the first place as an antiseptic; yet he puts permanganate of potassium second. Whilst bichloride is effective in the proportion of 1 part in 20,000 of fluid, the permanganate of potassium acts to the same degree in the proportion of 1 part to 833 of solution. The bichloride is, therefore, about twenty-five times more efficient. We must acknowledge a certain sense of scepticism in examining these experiments of Dr. Sternberg, as able and well-considered as they unquestionably are. We find it difficult to understand why liquor zinci chloridi has no germicide action, whilst a 2 per cent. solution of the same is effective in the proportion of 1 part to 50. As the experiments of Dr. Miguel have been more recently performed, and the conditions insisted on by Jalan de la Croix more perfectly observed, we may rather accept his conclusions in regard to the real value of permanganate of potassium as a germicide.

As a deodorant, and so far a disinfectant, this agent has a large sphere of usefulness in medical practice. Sufficiently concentrated, it has an effect on the constitution of certain animal poisons. The fact first ascertained by Lacerda—that permanganate of potassium decomposes and renders harmless the poison of venomous snakes—seems to contradict the results of the experimental investigations regarding its germicide power. The destruction of the animal poison takes place on contact, but the same agent is completely inefficient when acting through the whole mass of the blood. It is, however, a question of the strength in which the permanganate is used. Topically, it is possible to make applications strong enough to decompose animal poisons without, at the same time, injuring the textures to which they are adherent.

In *gonorrhœa*, *leucorrhœa*, and *suppurating buboes*, a strong solution—five to ten grains to the ounce—is an efficient remedy. It has proved to be especially so in gonorrhœa. When the attack is recent, the solution should not be stronger than two grains to the ounce, but, the more chronic, the stronger the injection may be made, of course within reasonable limits. In suppurating buboes, the contents of the sac should be drawn off with an aspirator if still intact, or thoroughly evacuated if ruptured, and the cavity filled with the stronger solution mentioned above.

Lacerda's experience with permanganate in snake poison renders it almost certain that in the corresponding poison of syphilis the local application of this remedy at the earliest moment to an infecting chancre may be productive of the best results. In all forms of unhealthy and sloughing syphilitic sores—in sloughing phagedæna, for example—it deserves more extended use than has heretofore been made. Finely pulverized, it can be dusted thoroughly over the diseased surface and introduced into all the sinuosities. By the same mode of application it can be used in *lupus* and *epithelioma*, and will, doubtless, be found more effective than the chlorate of potassium, which, applied in this way, has lately been much urged on the attention of the profession.

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[1] Antiseptica und Bakterien. Archiv f. experimentelle. Pathologie und Pharmakologie. Band iv. p. 1.

[2] Archives de Physiologie normale et pathologique. Vol. 4, 3d series, p. 142.

[3] Bul. Gén. de Thérap. Vol. 107, p. 80 *et seq.*

[4] Das Verhalten der Bacterien das Fleisch-Wassers gegen einige Antiseptica. Archiv für experimentelle Pathologie und Pharmacologie. 1881. Pp. 175 and 225.

[1] Experiments to Determine the Germicide Value of Therapeutic Agents. By Geo. M. Sternberg, M.D., U. S. A. American Journal of Medical Sciences, April, 1883.

As a disinfectant and deodorant, a solution of two to five grains to the ounce is useful in *otorrhœa, ozæna, fetid breath, fetid sweat of the axilla and feet*, and in general wherever on the surface of the body there are odorous discharges and emanations. For general disinfectant purposes it is rather an expensive agent, even if equal to the active and cheaper agents now utilized for this purpose.

As has been already stated, permanganate of potassium is the most generally useful test for determining the presence and amount of organic matter in potable waters, a standardized solution being employed. It may, also, be used to free drinking water from dangerous impurities when the drinking of contaminated water may be imperative.

THE HYDROCHLORATE OF COCAINE AS AN ANÆSTHETIC IN EYE SURGERY.

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HAVING seen the favorable reports in THE MEDICAL NEWS of the use of this drug, I sent to Jno. Wyeth & Bro. for a sample for trial.

The friends of the patient for whom I had especially desired it hesitating about having the first trial made on her, I resolved first to test its effect on my own eye. Three drops in the conjunctival sac, at intervals of three minutes, at the end of ten minutes had rendered the conjunctiva so insensible that I could rub my finger over the sclerotic and cornea without the slightest disagreeable sensation, and taking a pair of sharp-toothed forceps, such as are used in the strabismus operation, I seized the conjunctiva of the ball and drew it off to a distance of one-eighth of an inch without the least pain. There was a slight reduction of the power of accommodation, and decided dilatation of the pupil.

On the following day, having explained the above experiment to the friends of my patient, and assured them of the harmlessness of the drug when used in this way, they gave their willing consent to its use, having a great dread of the effects of ether.

The following is a report of the case: Miss C. P., æt. 17, since the age of four or five years has had a high degree of convergent strabismus in the left eye, but which was at times interchangeable with the right. When about nine years old, Dr. Williams, of Boston, operated on the left eye, dividing the tendon of the internal rectus muscle, but the squint returned in a short time. On November 5th, after treatment with cocaine, I did a practically painless operation on each eye, dividing each internal rectus tendon freely.

The method of using the drug was as follows: At intervals of three minutes, for a quarter of an hour before operating on each eye, I dropped into the conjunctival sac one drop of a two per cent. solution of the hydrochlorate of cocaine. After the third dose had been used, the patient was astonished to find that she could pass her finger over the ball of the eye without any uncomfortable sensation whatever. During the progress of the operation, at intervals of about five minutes, a drop was instilled into the wound by an assistant. This was made necessary by the fact that, in this strength at least, the effect begins to wear off in from five to ten minutes. At one time, during the operation on the right eye, I had omitted to apply the drops for a few moments, and having made a fresh incision, the hook used in taking up the tendon caused a slight twinge of pain. A two per cent. aqueous solution was used. I shall, at my first opportunity, make use of a four per cent. solution, which I think will be still more effective.

The freedom from hemorrhage with the first incision was a noticeable feature of the case, though the incisions were quite free in both eyes; there was an entire absence of that extravasation of blood which often renders an eye so unsightly after a tedious operation for strabismus.

Though the patient—a rather nervous young lady—was somewhat overcome by the excitement and mental strain of an operation to which she had looked forward with dread for a long time, there were no unpleasant effects whatever which could be traced to the use of the drug, with the exception of the dilatation of the pupil and the slight effect on the accommodation which is produced by cocaine. This effect is similar to that produced by a very weak solution of atropia.

PRELIMINARY NOTE ON THE RELATION OF DERMATITIS HERPETIFORMIS TO HERPES GESTATIONIS AND OTHER SIMILAR FORMS OF DISEASE.[1]

BY LOUIS A. DUHRING, M.D.,
PROFESSOR OF SKIN DISEASES IN THE UNIVERSITY OF PENNSYLVANIA.

IN my original communication on Dermatitis Herpetiformis,[2] the symptoms, characteristics, and the several varieties of the disease were described. It was also stated that the pustular variety was the same manifestation as that described by Hebra as impetigo herpetiformis. The view was likewise put forth that the herpes gestationis of authors was probably merely another variety of this affection. In a more recent paper, just read before this Association,[3] the relation of the impetigo herpetiformis of Hebra to dermatitis herpetiformis has been shown, and the conclusion reached that the former is but a variety of the latter disease. In the present note I desire to bring forwards supplementary views which have of late been forced upon me by study of the literature of the subject, to the effect that not only the herpes gestationis of writers, but also other similar forms of eruption reported with various titles are all merely instances of one process, namely, dermatitis herpetiformis as I have defined this disease.

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[1] Read before the American Dermatological Association, 1884.

[2] Read before the Amer. Med. Assoc., May 6, 1884, and published in the Journ. of the Amer. Med. Assoc., August 30, 1884.

[3] Journ. of the Amer. Med. Assoc., Aug. 30, 1884.

To be more definite, some of these cases may be mentioned.

The "herpes circinatus bullosus" of Erasmus Wilson;[1] the "pemphigus prurigineux" of Hardy;[2] the "herpes gestationis" of Milton,[3] Bulkley,[4] Thompson,[5] Liveing,[6] Cottle,[7] Gale,[8] and W. G. Smith,[9] all represent manifestly the same disease, and are expressions of the vesicular and bullous varieties of dermatits herpetiformis. In like manner the "pemphigus" of Klein;[10] the "pemphigus circinatus," of Rayer;[11] the "herpes phlyctænodes" of Gibert;[12] the "pemphigus aigu pruriginosus" of Chausit,[13] and the "pemphigus composé" of Devergie.[14] Certain cases of so-called "hydroa," should, I think, also be viewed as forms of dermatitis herpetiformis, as, for example, the cases reported by Handfield Jones[15] and Bulkley,[16] and that of "Florence S.," described in the *British Medical Journal*, 1870. Likewise such cases as that of Oswald,[17] reported with the heading "a peculiar skin eruption occurring during pregnancy;" and of Leigh,[18] a "bullous eruption of a peculiar character."

The very unusual case of Jarisch,[19] designated "herpes iris," and the case of Meyer,[20] "a fatal pemphigus-like dermatitis," have also points in common with the disease under consideration.

Finally, without doubt some cases of so-called pemphigus, especially of "pemphigus pruriginosus," might more properly be regarded as examples of dermatitis herpetiformis.

HOSPITAL NOTES.

ST. MICHAEL'S HOSPITAL, NEWARK, N. J.

Service of Dr. William Pierson.

REMOVAL OF EPULIS WEIGHING FIVE AND A HALF OUNCES, AND MEASURING TEN AND THREE-EIGHTHS INCHES IN CIRCUMFERENCE.

(Reported by A. C. Dougherty, M.D., surgical clinical assistant.)

On July 18, 1884, Dr. Pierson removed an epulis of the above mentioned rather unusual dimensions. The patient, a female, was a native of Ireland, forty-three years of age, and had first noticed the growth twelve years before, but it was only within the last four years that it has been large enough to distend the cheek, and for the last year that she had suffered any pain in the growth. The pain was intermittent, and sharp and darting in character. The tumor, which during the last six months had grown very rapidly, was attached by a small pedicle to the internal periosteum of the lower jaw on a level with the second molar tooth, greatly distending the cheek, and interfering with deglutition and articulation. For some time prior to the operation all nourishment had been of a fluid character,

The patient entered the hospital on July 17th, and on the following day the growth was removed, an incision three and one-eighth inches long being made along the lower border of the jaw, through which the tumor was enucleated, and its bony site well scraped. The edges of the wound were then brought together by a continuous catgut suture, and a dressing of iodoform applied; the wound healing almost by first intention. Up to date there has been no recurrence of the growth.

MEDICAL PROGRESS.

Fatty Diarrhœa in Children.—In a paper on the fatty diarrhœa of children, as understood by Demme and Biedert, Ischernov has found, from an examination as to the amount of fat contained in the feces of healthy and fevered adults and children, that in fever at least 14 per cent. of the fatty food is absorbed. He then made analyses of the feces of children under six years of age, and under different circumstances.

In the feces of seven healthy children he found from 25 to 30 per cent. of fat; in that of two prematurely born children, 47 to 57 per cent.; in four children with dyspepsia, 37.6 per cent. (normal state, 26.3), 43.6 (normal 27), 43.5 (in this case the mother's milk contained only 1.5 per cent. of fat), and 62.2; examinations were also made in fourteen other cases, in which the children suffered from different diseases, and in whom there were symptoms of intestinal irritation.

In a case of erysipelas the fat amounted to 52.2 per cent.; catarrhal pneumonia, 51.1 per cent. (during convalescence, 42 per cent.), 51.7 (convalescence, 33), and 60.9 (convalescence, 55.2); in a case of large abscess, 67 per cent. of fat, which fell to 48.3 when the abscess was opened and improvement began. In a case of icterus, with enlargement of the liver and spleen and severe diarrhœa, there was 75.3 per cent. of fat.

Ischernov concludes there is no such disease as fatty diarrhœa, but that it is a symptom found in various and widely different diseases.—*Centralbl. für klin. Med.*, September 27, 1884.

Fracture of the Penis.—Dr. H. A. Veazie, of New Orleans, reports the case of a young man who fractured his penis during the act of coition. On examination, it was found that the penis had been broken through and through, except the cutaneous covering. The two fragments could be moved upon each other, and on making traction a distinct sulcus could be felt at the seat of the break, which was about an inch and a half back of the corona. The urethral spongy body and the corpora cavernosa all evidently broken through.

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[1] Diseases of the Skin. Sixth ed. London, 1867.

[2] Leçons sur les Mal. de la Peau. 2d part, p. 136. 2d ed. Paris, 1863.

[3] Path. and Treat. of Diseases of the Skin. London, 1872. Page 205.

[4] Amer. Journ. of Obstetrics, February, 1874.

[5] Archives of Derm., October, 1875.

[6] Lancet, June 1, 1878, p. 783.

[7] St. George Hosp. Rep., 1879.

[8] Lancet, 1880, vol. i. p. 601.

[9] Dublin Journ. Med. Sci., 1881, 3 s., lxxi. p. 70.

[10] Allg. Wien. med. Zeitung, August, 1867; quoted in Journ. Cutan. Med., July, 1868, p. 203.

[11] Treatise on Diseases of the Skin. English translation. London, 1835, p. 219.

[12] A Practical Treatise on the Special Diseases of the Skin. English translation. London, 1845, p. 118.

[13] Annales des Maladies de la peau et de Syph. March, 1852.

[14] Mal. de la Peau, p. 309. Paris, 1857.

[15] Med. Times and Gaz., September 6, 1873.

[16] Archives of Derm., April, 1877.

[17] Lancet, June 10, 1882, p. 951.

[18] Lancet, January 6, 1883, p. 11.

[19] Viertlj. für Derm. u. Syph. 2 u. 3 Heft., p. 195, 1880.

[20] Archiv für path. Anat. u. Phys. November, 1883, p. 185,

His urine was drawn off, quinine and opium given, and incisions made through the skin to give exit to the extravasated urine. The next day he had high fever and severe rigors. Sloughing occurred in patches, none larger than a half-dollar piece. A disinfectant lotion of liq. sodæ chlorinat. was applied to the penis, and he was instructed to draw his urine with a catheter when necessary. He made a good recovery, all openings healed well, but the distal fragment did not become erect until six months after the accident. The organ finally recovered its former usefulness. This was a case evidently of fracture of the healthy penis, there having been no disease of that organ up to the time of the accident.—*New Orleans Med. and Surg. Journal*, October, 1884.

Porro Operation.—Frey reports a case of Cæsarean operation by the Porro method, performed in December, 1882. The patient was 42 years of age, had Bright's disease, and her pelvis was markedly deformed from osteomalacia. The child was dead (!) when extracted. The woman died 76 days after the operation, with nephritic symptoms.—*Centralb. für Gynäk.*, Oct. 18, 1884.

Nephrectomy in an Infant.—At the meeting of the Clinical Society of London, on October 24, Mr. R. J. Godlee reported the case of a boy, aged one year and ten months, who had a tumor on the right side, which measured four inches by about two, and was growing rapidly. It was freely movable, and manipulation caused no pain. There were no urinary symptoms at all. The kidney was removed by the lateral abdominal (Langenbuch's) incision, and was readily accomplished as there were no adhesions to surrounding structures. The cæcum and the duodenum were the only pieces of bowel exposed. One large vein which ran over the tumor alone required ligature. There was no hemorrhage of consequence, and the whole operation was concluded in half an hour. The child had no symptoms of any kind after the operation. It ate and slept as well the next day as before, and the temperature only rose to 99° once, the day after the operation. It left the hospital well six days later. It continued well for six months, when recurrence took place in the right iliac fossa, the tumor rapidly increased in size, passing down into the scrotum, and the child died soon after. Mr. Godlee mentioned eight other cases which had been recorded, showing that five of them had died of the immediate result of the operation, two had recovered well, but died afterwards of a recurrence, and one was well when last heard of, but notwithstanding the unsatisfactory nature of the results, he argued that, seeing how hopeless the condition is if left alone, we should endeavor to remove these tumors in a still earlier stage, at all events until it is proved that even this proceeding is invariably followed by a fatal result. He particularly, however, pleaded against attempting the removal of the very large growths which are not infrequently met with, showing that they will almost certainly have involved surrounding structures, and that thus while no good can follow the operation an immediately fatal result is probable. The tumor weighed about one pound, and was in structure a mixed sarcoma, most of the cells being roundish or oval, but some spindle-shaped. This is probably the usual composition of these growths, but another class was mentioned in which striped muscular fibres occur. The latter are probably congenital, and often affect both kidneys, and are thus not favorable for surgical interference.—*Medical Times and Gazette*, November 1, 1884.

Œsophageal Auscultation in the Diagnosis of Thoracic Disease.—Dr. Baréty, in a recent paper on this subject, calls attention to the primary results of his studies in auscultation of the œsophagus as an additional means of diagnosis in thoracic diseases. By the application of the stethoscope on each side of the spine, between the scapulæ, a gurgling sound is heard during deglutition in the normal state; the sound being slightly more marked on the left side. Barěty has studied this sound as regards intensity, pitch, and quality, and its modifications in the presence of morbid conditions of the thorax. These studies are as yet necessarily incomplete, but so far as they lead to the conclusion that there is an increase of intensity in conditions of intrathoracic solidification at and near the region auscultated, among which he calls particular attention to tuberculous induration and engorgement of the tracheal and bronchial glands. He finds that the pitch is generally, almost always in fact, affected in cases of pleural effusion. It may also be said, in a general way, that the pathological significance of the modifications caused in the sounds of deglutition is the same as that of the modifications ordinarily found in respiratory sounds. In a later paper he will give the results of his studies of the œsophageal sounds as modified in pneumonia, bronchial dilatation, pulmonary cirrhosis, emphysema, pneumothorax, and hydropneumothorax, cancer, hydatids, cavities, etc.—*Revue de Méd.*, August, 1884.

A Symptom of Inflammation of the Pia Mater.—Kernig reports that, in examining 15 cases of inflammation of the pia mater, of which 13 were cases of epidemic cerebro-spinal meningitis, 1 of tuberculous meningitis, and 1 of purulent meningitis, he found that if the patient was placed in a sitting posture a contraction of the flexor tendons of the knee-joint was observed; in the severe cases it was so pronounced that the contraction could only be overcome by considerable force. For the occurrence of this contraction it seems to be necessary that the thigh should be flexed to a right angle, as the symptom is not observable in the upright position. This phenomenon is present at the beginning of the disease, and persists during its entire period; in convalescents it lasts for some time after they get out.—*Centralbl. für klin. Med.*, September 27, 1884.

The Infusion of Salt-solution.—Dr. Fux, of Laiboch, reports the case of a young man, twenty-one years of age, who stuck a thorn into his left hand. The wound did not heal, and gangrene set in, with profuse hemorrhage from the affected part. The gangrenous portion was removed, but the patient became so exhausted from the parenchymatous hemorrhage that he was in the most desperate condition. Fux injected about f℥vijss of a six per cent. solution of common salt into a vein of the right arm, by means of an irrigator. There was an immediate improvement in the patient's condition, and he recovered in a satisfactory manner.—*Centralbl. für klin. Med.*, September 27, 1884.

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SATURDAY, NOVEMBER 22, 1884.

THE CHOLERA, AND ARE WE PREPARED FOR IT?

The appearance of cholera in Paris, in epidemic form, and its reported "sporadic" occurrence in London, bring us almost face to face with this unwelcome visitor. In former numbers of The Medical News we have outlined the progress of the disease abroad, and what means should be adopted in our own country to prevent its introduction or mitigate its severity, should it obtain a foothold.

The proclamation of the President in July last, the almost daily bulletins in our medical journals and newspapers, the action of local and State boards of health, have all been calculated to arouse the most indifferent to a realizing sense of the impending danger, yet with all this we have heard of no movement in the direction of being practically prepared for the disease. Quarantine inspections, sanitation, etc., are all well enough, but in case the disease reaches our shores, what actual preparation has been made in our large cities for the care of the sick poor, for their removal to hospitals, or, in fact, for hospitals in which to put them? What arrangements are on foot for the speedy depopulation of an infected district, its purification, and the care of the population removed from it? We do not wish to alarm our readers, but these are practical questions, and although the disease may not reach us before next spring, it must be remembered that more than one epidemic of cholera obtained a lodgement in the United States during the winter months, notwithstanding a vigilant quarantine and the adoption of sanitary precautions.

With cholera so near—at Paris and London—it is possible for it to reach us at any moment, and an organized corps of medical men, with experienced nurses engaged, hospitals prepared, and all the details provided for, would simplify the work, and do much toward staying the disease and avoiding a panic. Let these means be provided without delay, to be called into active use if found necessary; and, if we happily escape the visitation of cholera, the expense incurred will be a trifle compared with what it might have been had the disease appeared and found us unprepared to meet it.

There is no estimating the quieting effect upon the public mind which would follow the announcement by our health officers that every arrangement had been made for meeting the disease, and, in case it comes, the facilities for managing it being already at hand, no unnecessary confusion or panic would follow.

ACUTE SUPPURATIVE SYNOVITIS OF CHILDREN.

In his *Beiträgen zur Chirurgie*, Volkmann, of Halle, refers to a peculiar inflammation of the joints of young children, which he calls acute catarrhal suppuration, on account of the nature of the secretion furnished by the superficially inflamed synovial membrane. This, in well-marked cases, is mucoid pus, or pus mixed with synovial fluid.

In a paper contributed to the *Berliner klinische Wochenschrift*, No. 43, 1884, Dr. Krause, the assistant of Volkmann, narrates two cases from his own practice, and furnishes the only full description of the affection of which we have any knowledge. Indeed, we fail to find any notice of it in our surgical text-books or monographs on the diseases of the joints, so that he practically calls attention to a new disease.

Acute suppurative inflammation of the synovial membrane of the larger articulations of children is almost invariably met with prior to the fourth year. Of its causation nothing is known. It is not preceded by the acute exanthemata, typhus, dysentery, diphtheria, epidemic parotitis, or other disorders which not infrequently terminate in suppuration of the joints, nor has it anything in common with monarticular rheumatism, tuberculosis, epiphyseal osteomyelitis, or syphilis. It is of comparatively frequent occurrence, Volkmann having seen at least fifty cases.

The clinical history of a typical case is as follows: A healthy child, without any antecedent illness or history of injury, is suddenly seized with fever and painful inflammation of the knee, shoulder, ankle, elbow, or hip-joint, the articulation most frequently affected being in the order here stated. The joint rapidly fills with fluid, the superficial tissues become swollen, red, and hot, and in a few days spontaneous or artificial evacuation gives vent either to a clear mucoid fluid streaked with thick, yellow pus, or to mucoid pus. If the joint has been laid widely open, the synovial membrane is seen to be much swollen and the seat of a vivid red discoloration, while the cartilages and other structures are free from disease.

In the majority of instances the affection pursues an extremely favorable course. Even in preantiseptic days, recovery after early puncture or spontaneous opening, with little or no impairment of function, was the rule. In some cases in which evacuation is long delayed, the cartilages show signs of involvement, and partial ankylosis, deviations in the form of the joint, and incomplete or total luxations ensue. In many cases, Volkmann, after incising the hip-joint, has succeeded in reducing the dislocation, and the results were excellent.

The treatment consists in free opening of the joint with the strict observance of antiseptic precautions, under which recovery, almost without exception, may be looked for.

In both of his cases, Krause found micrococci arranged in chains in the pus derived from the joints. They resembled, in every respect, the pyogenic micrococci described by Rosenbach. Cultivated in proper media, and inserted into the cornea or the jugular vein of dogs and guinea-pigs, they produced no effect whatever upon the articulations. These failures do not, however, preclude the probability of their being the cause of the disease in the human subject, since, as is well known, the effects of micrococci on man and the lower animals are by no means always similar.

THE NEW YORK STATE MEDICAL ASSOCIATION.

The first annual meeting of this Association unquestionably marks an important event in the history of medicine in the United States. For it is no small circumstance that so large and influential a proportion of the medical profession of the State of New York should feel themselves obliged to organize a new State Society for reasons which are well understood, and with which the profession of the whole country sympathize. The roll of membership of the new society includes many of the most distinguished physicians and surgeons in the State, and the papers and the discussions on them at the meeting just held, have never been surpassed in interest and value on any similar occasion. The successful issue of the meeting is no more than was to be expected. Possessing, as the new Association does, the sympathy of the profession, and the right of representation in the American Medical Association, it must largely sap the interest felt in the old State Society.

We congratulate the New York State Medical Association and its Committee of Arrangements upon the great success which has attended this first meeting.

DR. THOMAS'S ADDRESS.

The address in obstetrics and gynecology delivered on Wednesday morning by Dr. Gaillard Thomas is presented to our readers in this number of The News. It certainly augurs well for the future of the Association, that such an address has been delivered before it. Though recognizing its great value, we can not agree with all the statements it contains. Thus, when we are told that obstetrics "existed as a very perfect art," even at the time of Smellie and Levret, we beg leave to dissent—nay, it is not a perfect art now, still less "a very perfect one." So, too, we question whether obstetric scholars will give William Hunter such high praise as does Dr. Thomas. Hunter made important contributions to the physiology of pregnancy and of labor; but it seems to us an extravagance to assert that he elevated obstetrics to the "high sphere of a science." More was accomplished upon the continent in such elevation than in Great Britain; the mechanism of labor is quite as necessary for scientific obstetrics as the study of its physiological phenomena, and there were some most dangerous errors inculcated by Hunter in his practical obstetrics, while his anatomy was sometimes at fault.

The subject of bacteria is referred to, and the importance of antiseptic precautions in obstetric and in gynecological practice urged; and a brief summary of the treatment advised by Dr. Thomas for puerperal septicæmia is given.

In the earlier months of extrauterine pregnancy, the author advocates the use of electricity to destroy the life of the fœtus, remarking, "This method is harmless to the mother, even if an incorrect diagnosis be made, and effectual in producing fœtal death if the diagnosis be correct." But he fails to say that the fœtus may be thus killed in a normal pregnancy; indeed, it is probable that this has happened more than once in cases of supposed ectopic gestation. The induction of premature labor in placenta prævia and in puerperal nephritis is advocated; but the profession in general seems slow to accept these indications for arresting pregnancy.

In referring to the obstetric forceps, Dr. Thomas states that the only real improvement made in the instrument since the days of Smellie and Levret is that of Tarnier; this certainly is very high praise to the recent invention of the great Paris obstetrician, nevertheless it will probably be called just by every one who has not himself invented a forceps, or who does not follow Pajot in his rejection of Tarnier's instrument.

Laparo-elytrotomy is accorded just praise; a new case, in which both mother and child were saved, is adduced to enforce the value of the operation.

The gynecological portion of the address refers to Emmet's operation for tears in the neck of the womb, extirpation of the ovaries for the several purposes advised by Battey, Hegar, and Tait, vaginal extirpation of the cancerous uterus, and abrupt dilatation in the treatment of uterine flexions. Finally, four drugs are mentioned as of value in gynecology, or in obstetrics, the space given to these being about one-twentieth of the entire address, rather a poor showing for the medical branch of this department. The question naturally presents itself to us, Is there not danger of the profession unduly exalting the operative part of obstetrics and gynecology when one of the most brilliant of American teachers, and one of the most successful of operators, devotes almost all the time of such an address to operations, obstetric or gynecological? Even adding to the space occupied by a very brief reference to the four drugs, "which have of late been introduced into practice," that in which the prevention and treatment of puerperal septicemia are considered, there does seem to us undue prominence given to the purely surgical aspects of that department of medicine in which Dr. Thomas has won such enviable fame.

TUBERCULAR ENDOBRONCHITIS AND PERIBRONCHITIS.

A LARGE number of pathologists having accepted the view that the bacillus is the primary etiological factor in tuberculosis, attention is again being turned to the histogenesis of the process. Among others, v. SCHROEN has recently devoted himself to this phase of the question, and reported the results of his studies to the Congress of Naturalists and Physicians at Magdeburg. Seated in the finest bronchioles, the first stage is associated with the presence of small spores which, later, give place to bacilli contained in numerous giant cells. The process is accompanied by a coagulable albuminous exudate, to which he prefers to apply the old term "blastema," although he is careful to disassociate from it the corresponding notion of a free cell formation. He considers it rather the result of a disintegration of the white corpuscles which have wandered out into the bronchi, since he was unable to discover in them either a true fission or endogenous cell formation. The giant cells are thought to arise from certain very small endothelial cells, much smaller than emigrant blood cells, present in the blastema. The giant cells accumulate in such quantities as to cause obstruction of the bronchioles, followed by atelectasis of the terminal vesicular structure pertaining to them, catarrhal pneumonia, emigration of colorless cells, epithelial desquamation, and gradual transition into cheesy pneumonia and coagulation-necrosis.

As to the method in which the tubercles are formed, v. Schroen tells us that flask-like projections of the epithelium form in the wall of the diseased bronchiole, forming niches into which the giant cells wander or are perhaps forced. Each of these niches, in the centre of which the giant cells lie, afterwards becomes, if it is constricted off from the epithelial matrix, the middle point of a tubercle, while the thickening of the peribronchial connective tissue continues to increase, and results in cheesy tubercular peribronchitis. The gradual transformation into tubercle of the mass of giant cells which pass beyond the stage of blastema and giant-celled thrombus, exhibits an endothelial, fibromatous, and finally hyaline phase. Especially interesting, says v. Schroen, is the moment at which the connective tissue, forcing its way through the bronchiole wall, breaks through the latter and a mixture of giant cells with the young connective tissue occurs, out of which spring numerous endothelial cells. The more the connective tissue increases, the more do the giant cells diminish in number and size, while the blood supply is increased by the formation of new bloodvessels.

While a part of the giant cells is used up in tubercle formation in the bronchiole, and another part appear in the bronchial outgrowths and becomes the starting-point of a peribronchial tuberculosis, a third portion is forced through the infundibula into the lung alveoli and produces a rapidly coagulating exudation very poor in cells, which closely resembles the contents of a large lymphatic vessel in color and structure. Very frequently large numbers of white corpuscles wander into these lobular foci, and at the same time there begins a reaction of the alveolar epithelium, thereby introducing the phenomena of cheesy pneumonia and its consequent coagulation-necrosis.

TREATMENT OF TYPHOID FEVER.

THE recent paper of PROF. EBSTEIN, before the Congress of German Naturalists and Physicians, may, perhaps, be regarded as the mirror of the treatment at present accepted in Germany, and is, therefore, likely to prove of interest to our readers. The paper is based upon 235 cases, either severe or moderately severe. The mortality was 5½ per cent., which is reducible to 2½ per cent. by the elimination of cases irremediable by any treatment.

The abortive treatment by calomel is still regarded with favor, and this is the only treatment which can be considered etiological or causal. For the rest, the treatment must be symptomatic. Especial stress is laid upon dietetic and restorative measures, through the latter of which the patient is to be protected from the threatening inanition so characteristic of this disease.

Long-continued high temperature is to be especially combated only when associated with serious nervous or cardiac symptoms, or both, or when the temperature is so high as to threaten life. Baths, which are also to be regarded as stimulating, are approved of for the purpose, but are recommended only when other measures prove insufficient. Among other remedies, the preparations of salicylic acid are used for the purpose of temperature reduction, and Ebstein considers their use unattended with danger to the muscular structure of the heart.

Except that the calomel treatment is regarded with some favor, it will be noted that the experience with this large number of cases leads to much the same results as have been reached elsewhere—the sum of which is, that there is no specific treatment for typhoid fever, and that our skill and success are commensurate with the judgment shown in the combating of such symptoms as arise in the course of the disease.

REVIEWS.

The National Dispensatory. By Alfred Stillé, M.D., LL.D., Professor Emeritus of the Theory and Practice of Medicine, and of Clinical Medicine in the University of Pennsylvania; and John M. Maisch, Ph. D. Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Third edition, thoroughly revised, with numerous additions. With 311 illustrations. Imp. 8vo. pp. 1755. Philadelphia: Henry C. Lea's Son & Co., 1884.

The National Dispensatory was published early in 1879. A second edition has been sold since that date. Now a third edition claims attention. It is in every respect creditable to its authors and publishers. Indeed, we have yet no knowledge of a Dispensatory in any language that is more complete and worthy of confidence. It contains a full summary of the state of materia medica, pharmacy, and therapeutics, at the date of publication. Every source of information, foreign and domestic, in recently published works and current periodicals, has been consulted and employed in the compilation with that rare discrimination which inures only to very extensive learning, long experience, unremitting industry, and habitual accuracy,—qualifications possessed in a high degree by both authors.

To obviate a practical inconvenience arising from the constituents of formulas in the last revision of the Pharmacopœia of the United States being stated in "parts by weight," these have been translated and expressed in definite weights and measures of the apothecary. Formulas from the British and German pharmacopœias and the French Codex are also given. Besides a very full general index to the work, there is an admirable therapeutic index which physicians may find suggestive, and, in this sense, very useful.

As an entirely reliable and satisfactory standard we take pleasure in commending the National Dispensatory.

SOCIETY PROCEEDINGS.

CINCINNATI ACADEMY OF MEDICINE.

Stated Meeting, November 3, 1884.

(Specially reported for The Medical News.)

The President, W. H. Wenning, M.D., in the Chair.

CANCER OF THE STOMACH; GASTROSTOMY; GASTRO-ENTEROSTOMY.

Dr. J. T. Whittaker opened the discussion of this subject with the report of the following case: A little more than a week ago he was called to the country to see a young man aged thirty-three, who for eleven years had suffered from symptoms of gastro-intestinal catarrh, such as eructations, gastric distress, and vomiting. The dyspepsia had been exceedingly obstinate. The patient had been to this city and had here consulted several physicians, and had later gone to New York, where he got the opinion of another physician, which differed entirely from the opinion of those who had seen him here, as theirs had differed from each other, a fact which showed the obscurity of his case at that time. During his stay in New York, and after his return, he ran down rapidly. Dr. Whittaker found him exceedingly emaciated, so much so indeed that he thought at first sight that he had before him a case of tuberculosis. He was unable to stand without support, and he had marked œdema about the ankles. His intellect was clear, and on examination of the heart and lungs these organs were found in a state of health.

Upon examination of the stomach, to which attention was next directed, it was very easy to map out the organ, and on account of the extreme emaciation it was an easy matter to examine all the contents of the abdomen. The stomach made a tumor which was exceedingly tympanitic on superficial, but dull on deep percussion, and fluctuated on pressure. The centre of the tumor was about on a level with the umbilicus. There was also, upon direct pressure from before backward, a pulsation—not an expansive pulsation, but plainly a pulsation which was transmitted from the aorta beneath. The diagnosis at this stage seemed to rest between carcinoma and gastric ulcer. The age of the patient seemed to exclude carcinoma and to point rather to ulcer. But there had been no vomiting of blood. There had been pain, especially after eating, but the individual by restricting his diet had been able in a great measure to relieve that symptom. There was in this case none of the characteristic pain of ulcer. He had, therefore, but one opinion, and that was that it was a case of carcinoma, but he could find no tumor. On account of the distention of the stomach, he concluded that there must be occlusion of the pylorus, and therefore directed his examination especially to that region. For the last week there had been, evidently on account of weakness, but little vomiting, and he therefore considered the fluctuation due to the retained fluids that had been taken into the stomach and retained there. He had suggested the introduction of the stomach-tube, but this was objected to on the part of both patient and friends, and on account of the extremely feeble condition of the patient he feared to insist upon the procedure. The patient was then taken from bed and placed in a chair. His knees were bent and raised so as to flex the thighs upon the abdomen and the legs upon the thighs, and in that position he was able to detect an induration about the size of a walnut in the region of the pylorus. This examination was several times repeated, with each time the same result. The diagnosis of cancer of the stomach was therefore made and announced to the friends of the patient.

He had been reluctant to make this diagnosis for two reasons. In the first place, it had been made by none of the other physicians who had seen the case, and, in the second place, because of its prognosis. When the diagnosis of cancer was announced, members of the family were not willing to accept it, and he advised them to act upon the opinion of others, since this alone offered them any hope of recovery. The patient died, however, rather suddenly about two days afterward. No post-mortem examination was permitted.

There was strong evidence of carcinoma, the speaker said. The patient had nausea coming soon after eating, and a few minutes after he would reject his food. There was the pain, not severe, but constant, which had persisted until a short time before his death. Then there was the fluctuation; and finally, there was the tumor, to be made out upon placing the patient in a certain position. Against this diagnosis, on the other hand, was the absence of vomiting of blood, and the age of the patient; he was only thirty-three, making him only about twenty-two when his first symptoms began. Everyone is aware, he said, that cancer is a disease of advanced life, coming on between thirty, forty, and seventy, but in looking up the statistics he had been able to find reported a great many cases in which it had occurred in early life. Cases of even congenital cancer have been seen. Wilkinson has reported a case of congenital cancer, and Wiederhoffer has seen several such cases. Reichert reports three per cent. of his cases as occurring between the ages of twenty and thirty.

The point of greatest interest in a case of carcinoma, he added, is the etiology; but this is, unfortunately, a point on which we are greatly in the dark. It has been conclusively demonstrated that it begins only in epithelial structures, and these we find everywhere in the body. The point that is now agitated is whether it may not result from simple gastric catarrh. There are some parts of the earth in which cancer is almost never seen, and there are others in which it prevails almost to an epidemic extent. For example, in Egypt, Turkey, and in Vera Cruz, cancer of the stomach is almost never seen, and yet gastric catarrh is of extremely frequent occurrence. In Normandy, Upper Swabia, the Black Forest, and about Lake Constance, on the other hand, cancer is very common, and it has been attributed by Autenrieth and Clicquot to the abuse of vegetable food and cider. Virchow maintains that he has demonstrated every stage of the transition from catarrh to cancer. There is very great importance in an observation like this if it be true, for we can cure a case of gastric catarrh, and thus prevent a case of cancer.

The difficulty in diagnosis in these cases was well illustrated in the case reported. Between a case of gastric catarrh and a case of carcinoma without a tumor, the diagnosis is always one of the most difficult in medicine. The physicians who had examined the case could not detect the tumor, and he said he would not have been able to detect if he had not gotten the patient into the position he did. He had seen a case last winter with Dr. Ransohoff in which the symptoms of carcinoma were well marked, but in which it was impossible to discover the tumor. There was marked occlusion of the pylyrus, with gastrectasis, but no tumor could be felt, although the patient was equally emaciated. When an incision was made, and the pylorus exposed, it was found to be very much thickened, completely occluded, but the thickening was so situated that it was plainly impossible to feel it from the outside. It was behind the liver, and, of course, behind the ribs, and it had not, from its adhesions, been allowed to fall down by gravity, so as to be felt below the ribs. No one could have recognized the tumor in that case. Maurizio says that he has sometimes been able to recognize the tumor by putting the patient in the knee-elbow position, when he could find it in no other way. The speaker said further that he had seen once in the clinic of Frerichs a case in which fluctuation could be felt, and in which the stomach-tumor extended down and lay above the symphysis pubis. The clinician administered first a teaspoonful of tartaric acid, then a spoonful of bicarbonate of soda, and in that way, by the visible peristalsis, mapped out the boundaries of the stomach. Frerichs was the first to recommend this method, and many a physician since has been able to recognize the tumor with it where he could not do so otherwise. In the case just reported, however, he had not taken advantage of this method, but had been able to obtain the same result by putting the patient in the position which he had described. Sometimes in these cases a sense of increased resistance upon palpation of the stomach is all he can detect. It is not always an easy matter to recognize an increased sense of resistance in this region, but if we do discover it, and if it be located in the right side of the epigastric region, and if it be persistent, we are justified in suspecting a carcinoma. Carcinoma occurs in the stomach more frequently than in any other organ. It is found, we are told, in two per cent. of all autopsies, but very often it is entirely overlooked. That accident to the physician is more likely to occur when the disease is diffused along the anterior wall of the stomach. Again, the tumor may be so plain that a mere glance reveals it. Only last week an individual had consulted the speaker for stomach trouble, in whom he found an immense tumor in the region of the stomach. Again, when there is a constriction of the pylorus, the speaker said, the diagnosis is usually easy, because such a constriction is, in ninety-nine cases out of a hundred, due to cancer. The constriction reveals itself very quickly by the dilatation of the stomach which must supervene.

In concluding his report, he said that he had brought this case before the Academy because it was the first time that he had been able to recognize the tumor simply by changing the position of the patient. He had tried in vain to locate it in every position of the patient in bed. He would have made the diagnosis of cancer even if he had not found the tumor, on account of the great gastrectasis, but the detection of the hard nodular mass at once eliminated gastric ulcer and catarrh.

Cancer not infrequently develops about the cicatrix of a gastric ulcer, but the speaker had always been incredulous concerning the cases of catarrh said to have been attended with such proliferation of the submucous connective tissue as to result in nearly complete occlusion. He believes these cases to be real carcinomata. As to the change from a catarrhal to a carcinomatous process, the speaker believed in it. While cases are recorded in which no catarrhal symptoms had been remarked, they were very rare, and his own experience was illustrated by this patient, who had had so-called dyspepsia off and on for years. This view gave us at least a new hope and a new chance in an affection considered the most fatal of all chronic disease.

Dr. P. S. Conner said that rather than add anything to what had been said, he would present a specimen which illustrated what might be found at a late period in cancer of the stomach. He had been much interested in the idea to which the last speaker referred, namely, that so many of these cases seemed to be the result of a long-continued inflammatory condition. Only a few days ago he had read the report of several cases in which the author held that all carcinomata, whether of the stomach or elsewhere, were strong evidence of a preëxisting catarrhal inflammation. It is certainly true, not only that there is a strong disposition to refer these carcinomata to a preëxisting inflammation, but the last speaker might have gone further, and said that there is a tendency on the part of many to go back to the old view, that all tumors are of inflammatory origin. We can understand how a catarrhal inflammation like this should give rise to this condition.

About two weeks ago, he had been called to see a gentleman from a distance, who had been very properly told by his physicians that he had a cancer of the stomach, but being dissatisfied, came to the city, and consulted several surgeons, among them himself. On examination, there was discovered a tumor the size of a closed fist, occupying a position a little above the umbilicus. The man was so much emaciated that the tumor was readily discoverable. The patient reported that he had for fourteen years suffered from dyspeptic symptoms, not being for any length of time free from them.

The specimen exhibited was one which he had removed by operation—so far as he knew, the first case in which the entire stomach had been removed on this side of the Atlantic. Two cases have since been reported. In this case, the patient was extremely emaciated, and almost *inarticulo mortis* when the operation was undertaken,—undertaken not because of any hope he had for relief from the trouble, but because the patient begged him to give her what relief he could. The specimen was entirely detached with the exception of a small point at the end, when he was informed that the patient was dying. The woman was between fifty and sixty years of age, and the speaker had never seen a carcinoma in a very young individual, or at anything like the age of the cases reported by Dr. Whittaker.

As for the propriety of operative procedures in these cases, leaving out of consideration all operations for non-malignant disease, or for sarcoma, he questioned very much whether the operations that have been made, or those that may be made, are of any real value whatsoever. As a rule, they are of more benefit to the operator than to the operated. There are cases in which relief has been given for a time, but still he questioned whether this would be secured as a rule, and particularly was he of this opinion when he considered the fact that, in this country, the patients have an opinion of their own, independent of the opinion of their physician, and will not submit to any operative procedure until the disease has gone on to the last stage, and until it is a question of only a few days whether the case shall be turned over to the undertaker or to the surgeon. As for his own feelings, he was willing to perform the operation and give the patient what chance there was for even temporary relief, but he would not do so without telling the patient that he must take all the chances, and informing him that the danger was very great. He was further of the opinion that it might be better, instead of performing an exsection, to form an adhesion between a healthy portion of the stomach wall and a knuckle of the intestine below. The patient would be more comfortable for awhile, and with the opening he would hardly die of starvation, for he would have a digestive tract, and the portion cut off would be of comparatively little importance.

This specimen exhibited had been kept many months in alcohol, but it still showed the immensely thickened condition of the walls, as seen by an incision through them. Often the great difficulty in these cases is undoubtedly that we do not recognize the existence of the disease until it is so far advanced that surgical interference really merits the appellation, "surgical audacity." The subject of the removal of non-malignant tumors is an entirely different one, for in them if the operation can be performed the lease of life is a comparatively long one, whereas in the malignant growths it is necessarily short. He had hoped in his case to be able to get the cardiac end of the stomach attached to some portion of the intestinal tract, he did not care much where, so that the fluids poured out in the upper part of the small intestine might flow down to meet the food and cause digestion in the part of the intestine where they came together. The operation he considered perfectly feasible, so far as operative procedures are concerned; and he was sure that, had his patient been in a fair condition, he could have made this operation without much difficulty.

Dr. Joseph Ransohoff observed that the case with which Dr. Whittaker had connected his name was one of exceptional interest. The patient was only thirty-four years old, and had enjoyed excellent health to within one year of his death. Gastric symptoms had supervened with increasing severity up to the time of his admission to the hospital. The most marked subjective symptom was vomiting, which could not in any way be controlled. The pain was of only moderate severity and usually ceased when the stomach was empty. When the patient entered the hospital he was already extremely emaciated. Physical examination revealed nothing but the dilated stomach, which could, when filled with fluid, be felt as a fluctuating (*"Schwappen-gefühl"*) mass, occupying most of the upper portion of the abdomen. Repeated examinations in varying postures failed to elicit the presence of a tumor, or even of an increased resistance in the epigastrium. For this reason the diagnosis of benign stricture of the pylorus, with or without ulceration, was made, while the presence of malignant disease could not be positively excluded. As a *dernier ressort*, frequent washing of the stomach was resorted to for about a week in the hope that this remedy, which is of so much service in catarrhal conditions of this viscus, might be of some service. The hopes entertained from it were not realized. The vomiting continued unabated and the strength of the patient visibly diminished. For this reason a laparotomy was determined upon with the view of excising the pylorus.

Operation, April 12. Previous to the operation the stomach was freely washed out. When the peritoneal cavity was opened by the oblique incision recommended by Billroth, the distended stomach was at once encountered, and, when drawn down, presented at the pylorus a very characteristic malignant deposit. This involved the entire circumference of the pylorus and measured along its lower margin not more than an inch and a half, whereas along its upper margin it involved the lesser curvature of the stomach; the tumor measured here about two inches in length. A nodule about the size of a small pecan nut could be felt in the lesser omentum. The tumor was completely hidden beneath the inferior surface of the liver. It would have been an easy matter to excise this tumor, but the experience of one of the previous speakers was fresh in his mind. Our patient, already extremely weak before the first incision was made, was evidently failing fast. It was determined, therefore, to give up the excision of the stomach and to establish an aperture between the stomach and a loop of the small intestine.

Little difficulty was encountered in seizing a loop of the intestine, about eight or ten inches from the extremity of the duodenum. The length of the mesentery of this portion of the jejunum readily permits the approximation of the loop seized to any portion of the gastric surface. The intestinal loop was brought to the anterior wall of the stomach and fastened to it by eight Lembert's sutures, arranged in a semicircle, the diameter of which was about two inches. Then the blades of a long forceps, covered with soft rubber, were applied to the stomach and intestine to prevent the possible entrance of foreign matter into the peritoneum. Incisions, an inch and a half in length, were then made in corresponding parts of the gastric and intestinal walls. The perfect approximation of the apertures was easily accomplished by nine sutures arranged in a semicircle, the ends of which touched those of the half-circle previously mentioned. In order further to insure immunity of the peritoneum from contact with intestinal contents, an entire circle of sutures was applied. No drainage-tube was inserted into the abdominal wound.

The patient survived the completion of the operation eight hours. In the opinion of Dr. Whittaker and the speaker, death must have resulted in the natural course of the malady in not more than one week. The speaker believed that, if the operation had been practised one or two months sooner, the chances of temporary improvement would have been vastly greater. In two cases life had been prolonged for many months by this operation and the avoirdupois of the patient increased. These cases were alive and doing well respectively six and four months after the operation. As to the ultimate results he could gain no information.

Dr. Ransohoff then presented the specimen with the communicating orifice between the stomach and intestine. At the *post-mortem*, some milk which had been administered in minute quantity to the patient after the operation was recognized in the intestine.

So far as the speaker knew, this was the seventh gastro-enterostomy that had been performed. The operators were Wölffler, Billroth, Lücke, Lauenstein, Rydygier, Courvoisier, and himself. Of these cases, two temporarily recovered (Wölffler and Lücke).

Wölffler performed the first operation in September, 1881, and it is, therefore, entirely too early to predict its future history. When it is remembered that cases of malignant, and even of non-malignant, stricture of the œsophagus succumb to starvation, nothing more plausible than this operation can be imagined. It side-tracks an unimportant part of the alimentary canal and allows the digestive processes to be conducted in an almost natural manner. It in so far is infinitely preferable to establishing an intestinal fistula through which the patient is to be fed. In non-malignant pyloric strictures, the speaker believed that gastro-enterostomy would, in the course of time, supplant excision of the pylorus.

Concerning this operation for malignant disease, he could only express his admiration for the bold attempts made to prolong life in otherwise hopeless cases. He had not seen any recent statistics relative to the subject, but believed that one hundred cases could be collected, not one of which, so far as he knew, had permanently recovered. The reason for this uniform mortality lies in the prolonged waiting for positive objective symptoms to develop. When these are unmistakable, the disease has usually progressed so far that a radical removal of the tumor must be despaired of, or adhesions to the neighboring organs render the operation utterly impracticable. If, in the case presented by him, an operation had been made three or four months sooner, the small size of the neoplasm, and its absolute freedom from adhesions, would have permitted easily excision of the pylorus, and some slight hope for permanent recovery might have been warranted.

Dr. S. Nickles remarked that he thought it was about time to take the subject under discussion out of the hands of the surgeons, for all the patients died. He called attention to a method of diagnosis of cancer of the stomach proposed by Dr. R. von den Velden in 1879. In numerous cases of dilatation of the stomach, von den Velden had washed out the stomach, and had carefully determined the chemical reactions of its secretions. In eight cases of gastric cancer he constantly found the contents of the stomach destitute of free hydrochloric acid. The like defect was found also in typhoid fever, and temporarily in some cases of dilatation not due to cancer. He supposed that his observation might be of great service in the differential diagnosis between pyloric stenosis from cancer and that from other pathylogical conditions. If free hydrochloric acid is found in the stomach contents, cancer may be excluded and a favorable prognosis may be made, but should the acid be absent, the diagnosis will remain doubtful until the stomach had been washed out for eight or ten days, when, if the acid should be found, its previous absence might be attributed either to the presence of a concomitant catarrh or to a febrile process, but should the acid remain absent, the presence of cancer would be exceedingly probable, at least the prognosis would be unfavorable.

Rosenbach states that he found free hydrochloric acid absent in two cases of atonic dyspepsia, in which no accumulation of mucus in the stomach had taken place, and also in one case of digestive disorder produced by severe anæmia. Edinger had reported cases of amyloid degeneration of the gastric mucous membrane in which he could not detect free hydrochloric acid.

The statement that cancer may result from chronic gastric catarrh, led the speaker to reflect upon the treatment of cancer of the stomach by condurango, as proposed a number of years ago. He thought it probable that the favorable results that were said to have been obtained from that remedy, were in reality due to its beneficial action in some forms of gastric catarrh, in which it had been found to relieve pain, arrest vomiting, and restore the appetite.

As regards the diagnosis, the speaker was of the opinion that if a patient have paroxysmal pain referable to the stomach, if he vomit frequently some hours after eating, if he is emaciated and weak, and especially if a tumor can be felt, cancer may be suspected. But sometimes when all these symptoms are present, cancer does not exist, and, on the other hand, when several of them are absent, cancer is found *post-mortem*. Some cases run to their termination without vomiting, some without marked pain, and some present no tumor. Leube last year reported a case (*Deutsche Archiv für klinische Medicin*, Bd. 33, p. 3) which well illustrates the difficulties not infrequently encountered in the diagnosis. The patient for years was occasionally affected with heartburn, weight in the epigastrium, nausea, and vomiting. These symptoms gradually recurred more frequently and continued longer. Coagulated blood was several times found in the vomit. There was fulness of the epigastrium, and pain over a circumscribed part of the stomach. The patient was much emaciated. A tumor, hard, nodulated, painful on pressure, and as large as a plum, was found to the right of the umbilicus, and the stomach extended three or four fingers' breadth below the umbilicus. The washings of the stomach *always contained an abundance of free hydrochloric acid.* It was determined to excise the tumor, and the patient left the hospital to arrange his affairs. After five days he returned to submit to the proposed operation. All the symptoms remained as formerly, but the tumor was no longer to be felt, even when the patient was under the influence of chloroform. The operation, of course, was not made. Improvement followed a carefully regulated diet, and frequent washings of the stomach. The dilatation of the stomach was still present after the lapse of a year and a half, but a tumor could not be detected again. Leube says that in five other cases he had detected tumors having all the characters of gastric cancer in emaciated patients, which disappeared during treatment.

If it were true that cancer can originate from gastric catarrh, then it ought occur even more frequently than it is supposed to, for there is scarcely an individual, the speaker thought, who has not at some time in his life a more or less persistent gastric catarrh.

Reverting to the statement in regard to the absence of hydrochloric acid from the gastric juice, the speaker thought that, if true, we may in the future be able to recognize these cases earlier and turn them over to the surgeon in time for some good to be done by operative means. Being asked how he accounted for the statement recently made, that the amount of urea found in the urine in cases of cancer is greatly reduced, he said that he thought it due simply to the fact that these patients are able to digest but a small amount of food, and hence a smaller quantity of urea is formed.

NEW YORK STATE MEDICAL ASSOCIATION.

First Annual Meeting, held at the Murray Hill Hotel, New York, November 18, 19, and 20, 1884.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, NOVEMBER 18TH—FIRST DAY.

MORNING SESSION.

THE PRESIDENT, HENRY D. DIDAMA, M.D., of Syracuse, called the Association to order, and DR. J. W. S. GOULEY, Chairman of the Committee of Arrangements, made an

ADDRESS OF WELCOME,

and gave a brief analysis of the programme of the proceedings. Over fifty papers had been received, of which 16 were directed to medical, 16 to surgical, 9 to obstetrical and gynecological topics, and the remainder to subjects in various other departments. He trusted that by another year every county would be represented by one or more papers, and that the scientific work of the Association would be divided among five sections.

DR. DIDAMA then delivered the

PRESIDENT'S ADDRESS.

In the world of medicine, a happy medium between desire for novelty and conservatism, was desirable for true progress. Having referred to the modern investigation of microörganisms as the cause of disease, which he likened to the gold and petroleum fevers in the commercial world, he proceeded to speak of the subject of therapeutics. "The real physician," he quoted, "is the one who cures," and he then paraphrased the familiar text from St. Paul, as follows: "Now abideth there three, diagnosis, pathology, and therapeutics; but the greatest of these is therapeutics." This was the one thing needful. In the examination of candidates for the degree of M.D., this, he thought, should be the cardinal point. It was important that the great essentials of the science of art and medicine should not be considered secondary to the matters of general scientific knowledge and literary culture. A State board of examiners might perhaps determine the minimum knowledge requisite; but if the mint and anise and cumin were taken into account, to the neglect of the weightier matters of the law, a wrong would be inflicted on the physician and a fraud would be perpetrated on the public. While many of the facts in regard to the action of certain well-known drugs, and the efficiency of certain therapeutic measures, which he enumerated, are well established, our views are liable to be constantly modified by the effect of new discoveries, and the profession stands ready to give a hearty welcome to every new remedy or measure that has the endorsement of good authority. We are hampered by no dogma, and our platform is broad enough for all who desire the advancement of truth.

In regard to the subject of medical education, he said that it was the fashion to condemn in unmeasured terms the course of study pursued in the colleges; but indiscriminate condemnation, he thought, was unjust and likely to overreach itself. The medical schools in this country had certainly produced many physicians and surgeons of the greatest distinction, and their clinical advantages were often unsurpassed. If too easy entrance and graduation were met with in these institutions, was it not because the profession had not really demanded greater proficiency? The earnest and devoted teachers in them, he believed, are willing and eager to advance the standard to the highest point at which they would be supported by their brethren. That excellent results had been attained under the present system could not be denied; but with a higher standard of medical education they would have been still more admirable. Having stated that the superiority of the graded system was not universally acknowledged, and that many prejudiced persons still preferred the old chaotic state, Dr. Didama proceeded to contrast the effect upon the student of the lecture courses as usually given in our colleges, and of a properly graded course of three years of medical study, with the numerous examinations incidental thereto; that the latter was the natural system of medical education was no longer a dream, but an established fact. By means of this, broad foundations were laid upon which it was easy to erect the complete superstructure; while under the old *régime* all was confusion and uncertainty. Having thanked the Fellows for the honor they had done him in making him their first president, Dr. Didama congratulated the Association on the auspicious circumstances under which it was now starting out.

The President then announced the following

COMMITTEE ON SCIENTIFIC CONTRIBUTIONS:

Drs. E. S. F. Arnold, of New York; O. S. Clark, of Cayuga; Wm. Gillis, of Franklin; G. W. Avery, of Chenango; and J. C. Hannon, of Rensselaer County.

THE ANNUAL REPORT OF THE COUNCIL

was presented by the Secretary. At an adjourned meeting of the Council, held the preceding evening, November 17th, the number of Fellows of the Association had been increased from 168 to 368. Of the 168 original Fellows 4 had died, among the latter being Drs. John G. Adams and Allen S. Church, of New York. As an amendment to the Constitution, it was proposed that seven members of the Council, instead of ten, as at present, should constitute a quorum.

DELEGATES FROM OTHER STATE SOCIETIES

were then announced, and invited by the Chair to seats in the Association. Dr. Earle, of St. John, New Brunswick, was also introduced.

TREASURER'S REPORT.

The Treasurer, Dr. John H. Hinton, reported that he had received, since February 6th, the sum of $1460 for initiation fees, $126 for annual dues, and $100 as a contribution from Dr. Didama, making a total of $1686. The disbursements had amounted to $1003.49, leaving a balance of $682.51.

REPORT OF THE COMMITTEE ON THE ORGANIZATION OF DISTRICT ASSOCIATIONS.

Dr. Gouley, Chairman of the above special committee, reported that the committee recommended the formation of five district organizations, according to geographical situation, with objects the same as the parent association; that the first should be called the First, or Northern District Association, the second, the Second, or Eastern, the third, the Third, or Central, the fourth, the Fourth, or Western, the fifth, the Fifth, or Southern District Association; that each district association should have its own executive committee and officers, that the executive committee should manage its affairs, that the vice-presidents of the parent association should be the presidents respectively of the district association to which they geographically belonged, that these presidents should report the scientific proceedings of their associations, with a list of papers presented to the parent association, and that the district associations should hold one stated meeting annually, and as many special meetings as were deemed advisable. In recommending the adoption of this plan of organization, Dr. Gouley said that in many of the counties it had always been impossible to get up society meetings of any interest on account of the small attendance, but with the medical men of twelve, thirteen, or fourteen counties thus gathered together, the interest would be greatly enhanced. If concerted action was taken in regard to this matter, the profession would undoubtedly be greatly benefited scientifically and socially, and the hands of the parent association would be greatly strengthened. After considerable discussion of the relations of such district associations to existing county societies, the plan of organization recommended by the Committee was unanimously adopted.

Dr. E. M. Moore, of Rochester, then delivered

THE ADDRESS IN SURGERY.

He took for his subject, *Transfusion of Blood*, in regard to which, he said, there was still much to be learned, since no one method had proved superior to all others, or had inspired the implicit confidence which it was desirable should be attained. He gave a historical *résumé* of the subject, and then stated that in the early stages of the procedure there had been dangers which could now be avoided. The chief of these were, ingress of air into the veins, and a change in the constitution of the blood for coagulation. The reason that the blood was so apt to coagulate was on account of the comparatively long time which was occupied in the transfusion; and this, he thought, ought to be avoided by continuing the operation only for a certain specified and definite time. In an apparatus which he had devised, and which he now exhibited, this could be accomplished very satisfactorily. The canula was provided with a rounded stilette, on which coagula could not readily form, and with an arrangement by which the flow of blood through it could be instantaneously checked. It was fitted into the lower extremity of an elongated rubber sac, which, he thought, was preferable to a syringe, from the fact that the packing of such an instrument always had to be lubricated in order to render it tight, and impurities are thus liable to be introduced. The blood of the donor was to be taken, as a rule, from the cephalic vein, which was to be carefully exposed and raised so as to secure a copious stream of blood when the incision was made into it. The stream was allowed to flow into a funnel resting on the tip of the sac, and the time of the operation was accurately watched by an assistant, who announced the end of each ten seconds. After about two ounces of blood had been received into the sac, the upper part of the latter was rolled up so as to make a certain amount of pressure. Dr. Moore thought more than two ounces of blood should never be injected, on account of the time which it took to inject more, as it was all important that the transfusion should take place during the period of the vitality of the blood. Even less than this was often sufficient; but when a larger quantity seemed to be required, the operation was to be repeated after a greater or less interval. He preferred blood in its natural condition to defibrinated blood, or to any of the saline preparations which had been suggested as a substitute for blood. In conclusion, Dr. Moore referred to a number of conditions in which transfusion seemed to be applicable, and also related some cases in which it had proved of service in his own experience.

DR. TOWNSEND, of Genesee County, who had seen in consultation one of the cases referred to by Dr. Moore, confirmed his report of the beneficial effects of the measure.

ADDRESS BY THE PRESIDENT OF THE NEW YORK COUNTY MEDICAL ASSOCIATION.

DR. WM. DETMOLD, President of the New York County Association, was introduced, and made a few remarks. The better part of the profession in New York City, he said, were deeply grieved when the State Medical Society was the means of having the great Empire State refused representation in the American Medical Association, and, therefore, the idea was conceived by them of reclaiming the profession here by the formation of a County Association which was unalterably pledged to support the National Code of Ethics. By this means the hydra of nihilism in the medical profession was held under control. He felt a pardonable pride in having been chosen to be the first President of so noble a body, and the work that had already been accomplished by it seemed to him worthy of the highest commendation. Since its first scientific meeting, held on the 11th of January last, when Prof. Austin Flint read a paper on "The Pathological and Practical Relations of the Bacillus Tuberculosis," a series of most valuable papers had been presented, which had elicited lively discussions, and a number of rare pathological specimens had been exhibited and commented upon.

A recess of ten minutes was then taken, during which the various

DISTRICT ASSOCIATIONS ORGANIZED

in accordance with the plan proposed by the Committee, of which Dr. Gouley was Chairman, and when the session was resumed the Secretary announced the following reports from them:

First District: Dr. John P. Gray, of Utica, Chairman, date and place of first stated meeting, second Tuesday in July, at Utica.

Second District: Dr. Wm. H. Robb, of Montgomery Co., Chairman, fourth Tuesday in June, at Saratoga.

Third District: Dr. H. D. Didama, of Syracuse, Chairman, second Tuesday in June, at Syracuse.

Fourth District: Dr. B. L. Hovey, of Monroe Co., Chairman, second Tuesday in May, at Rochester.

Fifth District: Dr. N. C. Husted, of Westchester Co., Chairman, third Monday in September, at Brooklyn.

AFTERNOON SESSION.

DR. J. C. HUTCHISON, of Brooklyn. read a paper on

TRANSFUSION.

While transfusion had been known for more than five hundred years, and many lives had undoubtedly been saved by it, it had to be admitted, he said, that the operation had failed to accomplish all that had been expected of it, and that at the present day it was not so frequently resorted to as formerly. If the apparatus required could be simplified, the dangers of the procedure diminished, and a better fluid found, it would undoubtedly come more into vogue, and, with a view to aid in securing this result, he had devised an apparatus, which he now proceeded to explain. It consisted, first, of a graduated glass cylinder, holding twelve ounces, and terminating below in a metallic cap. In this, which was perforated, a female screw was fitted, while the opening at the top was filled with rubber cork (to prevent loss of heat as far as possible), which was traversed by a thermometer. When the apparatus was to be used, the cylinder was placed inside a double rubber jacket, in the joint of which there was a slit, through which the graduated scale on the cylinder could be observed. The object of the rubber jacket was to preserve heat, and it was filled with hot water by means of a rubber tube, at one end of which was a male screw, which was first to be attached to a nipple-shaped stopcock at the top of the jacket. The free extremity of the tube was placed in a vessel of hot water held at a sufficient elevation to allow the water to flow down and fill the jacket. When this was filled, the other end of the tube was screwed into the female screw at the bottom of the glass cylinder, and to the extremity of the tube which had been in the hot-water vessel was attached a canula provided with a stopcock, which was to be inserted into the vein of the patient (preferably the median basilic). The canula which Dr. Moore had exhibited in the morning was, he thought, the best that he had ever seen, and in the future he would be glad to make use of it.

Having mentioned the dangers and objections which had been urged against the use of blood, whether defibrinated or not, and having spoken of the use of milk in unfavorable cases, he referred to the history of the employment of saline solutions, to which he gave the preference over any other fluid. Its action, he thought, to be dynamic rather than nutritive. In injecting a saline fluid into the veins the quantity used should not exceed one ounce per minute, and the flow was to be maintained until from twelve to twenty ounces had been employed. Having spoken of the use of saline injections in cholera, and made a comparison between arterial and venous injections, Dr. Hutchison announced the following conclusions:

1. It had been proved by clinical experience, and experiments on animals that the red corpuscles of blood

were short-lived and rapidly underwent disintegration; so that the utility of transfused blood could not reside in the corpuscles.

2. An important element in the benefit derived from transfusion was the restoration of vital fluid to the vascular system, and the strengthening of the action of the heart.

3. Saline solutions were simpler and more efficacious than blood.

4. If the recent claims made for intravenous injections in the treatment of cholera, and other grave conditions, were confirmed, the operation of transfusion was one of great importance.

DR. ROCHESTER, of Buffalo, believed that to quality rather than to quantity was due the benefit received from transfusion, and he related a case to show the remarkably good effect produced by the injection of less than two ounces of blood—probably not more than an ounce and a half. In such a small quantity of blood, therefore, he thought there must be something more than merely a dynamic effect. In the cholera epidemic of 1849–50, in New York, transfusion was practised somewhat after the manner described by Dr. Hutchison, but while temporary benefit was caused by it, all the patients died.

DR. ALFRED L. CARROLL, of Richmond County, Secretary of the State Board of Health, read a paper on

THE DURATION OF CONTAGIOUSNESS AFTER ACUTE INFECTIOUS DISEASES.

In order to obtain some light on this subject, which was one of great practical importance, several months ago he had addressed a circular of inquiry to a number of the most eminent teachers throughout the State to find out their views in regard to the period of contagiousness in smallpox, scarlatina, measles, diphtheria, typhus fever, typhoid fever, and pertussis. With the exception of smallpox, with regard to which there was a pretty general unanimity, there was a great variety of opinion in regard to the various zymotic diseases. Much observation was still needed to arrive at any definite conclusion. Here was an excellent field for collective investigation, and he trusted that the Fellows of the Association would be willing to assist in this work.

Papers on *The Therapeutics of Diphtheria*, by Dr. J. W. Moore, of Albany County; and on *Notes on Dislocations of the Hip Based upon 238 Cases Occurring in the State of New York*, by Dr. Frederick Hyde, of Cortland County, were read by title.

DR. JOHN S. JAMISON, of Steuben County, read a paper on

CHRONIC INTESTINAL CATARRH,

in which he gave a detailed description of the affection, and related his experience with eighty-one cases in soldiers which were contracted during the late war.

DR. EDWARD R. SQUIBB, of Brooklyn, read a paper on

THE MODERN PROGRESS OF MATERIA MEDICA.

Among the points touched upon in the paper were the following: The thoughtful physician seemed to realize more and more that his success as a practitioner depended on his utility to the public; the value of the word "cure" was better understood and specifics less looked for; the doses of medicines are regulated not by the books, but by their pathological and therapeutic effects; the quality of drugs was more closely scrutinized, fewer and more active agents were used, and were employed more simply; medicines were used in more concentrated forms, precision in weights and measures was much more common. It was getting to be understood that the so-called active principles of drugs did not represent their qualities, and the power and definite action of remedies were better known. It was not to inferred, however, that all the changes of the last twenty-five years were improvements.

A paper on *Intestinal Obstruction*, by Dr. Avery Segur, of Kings County, was read by title.

DR. W. H. ROBB, of Montgomery County, read a paper on

THE MANAGEMENT OF CRIMINAL ABORTION.

The cases to which he wished to direct attention were those occurring before the fifth month of utero-gestation, and in the paper he discussed the best methods (1) to control hemorrhage; (2) to remove the entire ovum; (3) to avoid septicæmia; and (4) to restore the woman to health.

DR. VAN DE WARKER, of Syracuse, said that at or before the third month he had never seen any good effects from the use of ergot, whether administered hypodermically, as recommended by Dr. Robb in urgent cases of hemorrhage, or by the mouth. The reason why ergot was not of service, he believed, was because the uterus had not its machinery for contraction in working order at this time, as at a later period. Furthermore, he thought that erratic and irregular contractions were often excited by it; and hence he considered that it was a waste of time to give ergot.

The tampon, except as a temporary expedient when the physician was suddenly summoned at night, was never to be resorted to, and sponge-tents, in his opinion, were not required to dilate the cervix uteri. If chloroform were used in sufficient quantity to produce partial anæsthesia, there would be no difficulty in dilating with such an instrument as Ellinger's, and then introducing the finger. The blunt curette was of service in dislodging the remains of the ovum, and after this had been done it was often advisable to swab out the cavity of the uterus with tincture of chloride of iron.

DR. R. H. SABIN, of Albany County, said he believed that the use of the tampon was attended with great danger, and related a case in which rupture of the uterus was produced by it.

DR. CHARLES BUCKLEY, of Monroe County, read a paper on

CHRONIC MERCURIAL POISONING.

He had treated an obscure case with bloating and marked gastro-intestinal and nervous disturbances, the symptoms of which suggested arsenical poisoning; but which afterwards proved to be due to mercurial poisoning. The cause of the trouble was a red, hard, rubber plate for false teeth, in the coloring of which mercury was employed. Since then Dr. Buckley had seen several other similar cases due to the same cause, although none of them was of equal severity with the first.

DR. SABIN, of Albany County, read a paper on

A CASE OF ACUTE LEAD POISONING RESULTING FATALLY.

The patient was a young man who died thirty-two hours after the first attack. He fell down suddenly at a ball and never regained consciousness. There was probably effusion on the brain, but no autopsy was allowed.

EVENING SESSION.

A paper on *Pyæmia and Death after the Operation for Convergent Squint*, by Dr. J. J. A. Burke, of Monroe County, was read by title.

DR. H. E. MITCHELL, of Rensselaer County, read a paper on

ERRORS OF REFRACTION; THE IMPORTANCE OF THEIR RECOGNITION AND CORRECTION IN EARLY LIFE.

In order to be able to determine whether it was advisable for a patient to consult an oculist or not, and to diminish the rapidly increasing number of defective eyes among children, he thought it would be well if general practitioners would provide themselves with a set of the ordinary test-types, and also with the optometre, an instrument which was but little known, but which might prove of great service. He then exhibited the best form of the instrument.

DR. AUSTIN FLINT, SR., of New York, read a paper on

THE DIETETIC TREATMENT OF DYSPEPSIA.

The first point which he wished to make was, he said, that dyspepsia denoted an affection distinct from indigestion. Having described certain of the symptoms of dyspepsia, he remarked that it was, in many cases, referable to the mind, a fact which he believed he had been the first to call attention to, in a paper published in the *American Journal of the Medical Sciences* in 1842. He then spoke of the fallacies which had formerly been entertained, more particularly in New England, in regard to the advantages of a severe regimen and restricted diet. At the present day, dyspepsia was much less frequent than in past years, and those who did suffer from it were mostly those who endeavored to regulate their diet and habits in accordance with the notions that formerly prevailed. One very prolific source of trouble was the practice of introspection thus engendered.

In the treatment of dyspepsia the patient was to be encouraged to forget his strict habits of eating. No rigid system was to be observed, and food in sufficient quantity and variety was essential. The guides for eating should be the appetite, the palate, and common sense. The cravings of nature were not to be disregarded. The patient's experience with certain articles of food was apt to be extremely fallacious, and he should not be guided by this, for what at one time might disagree with him at another might give rise to no trouble whatever. Dietetic idiosyncrasies were vastly less numerous than was generally supposed to be the case. The instructions to such a patient, therefore, should be something like the following: Do not adopt the rule of eating only at stated intervals, but eat whenever you desire food. Be doubtful of your past experience, and eat whatever is most acceptable to your palate. Try to have good cooking, and never leave the table until your hunger is perfectly satisfied. Eat animal as well as vegetable food, and take as much fluid as thirst dictates. In general, the diet which was beneficial to the healthy individual was beneficial to the dyspeptic. It was a fallacy to suppose that the organs of digestion required periods of prolonged rest. If allowed to rest, their functions would become perverted. It was of great importance that the dyspeptic should occupy his mind with other classes of objects than his food. Practical lessons on this subject might be learned from the gourmand, who, whatever else he might suffer from, seldom had dyspepsia; and the same was true, on the other hand, of the hard-working mechanic, who, instead of living to eat, eats to live.

(*To be concluded.*)

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, November 6, 1884.

THE PRESIDENT, R. A. CLEEMANN, M.D., IN THE CHAIR.

REMOVAL OF UTERINE APPENDAGES FOR MENSTRUAL EPILEPSY; RECOVERY.

DR. E. E. MONTGOMERY reported the case of Sarah H., æt. 17, admitted to Philadelphia Hospital, April 1, 1884. She suffered from an attack of inflammatory rheumatism in childhood, and began to have epileptic seizures in her thirteenth year; these were slight at first, but have recurred every month, increasing in number and violence, so that at present she is unconscious from ten days to two weeks out of each month. There has only once been a trace of menstrual discharge, and that for a single day only. There is no history of any chronic disease in the family; brothers and sisters are healthy. The patient was pale, flabby, anemic, poorly developed, and extremely nervous. The external genitals were but slightly developed, the uterus small, and no special tenderness over the pelvis. Iron, tonics, and a generous diet were given; the bromides were not well borne. Owing to her youth, and the fact that she had not yet menstruated, it was deemed best to undertake to establish the menstrual function, and exhaust the antispasmodics before resorting to operative interference. The failure of all remedial measures was complete, and on September 13th the operation was performed; both ovaries and tubes were removed. No antiseptic was used about the wound. All the water used had been well boiled. Absorbent cotton was placed over the wound, which had been closed with silk sutures. The operation occupied thirty-five minutes. The recovery was uninterrupted until the night of the 26th of September, when she had four epileptic seizures. There were recurrences of slighter attacks during the next three nights, but they were shorter, and during the intervals she was perfectly conscious. During the first four days of October, spells of staring, with momentary unconsciousness, occurred, becoming less frequent and lighter. A well-marked convulsion on the night of October 14th was followed by from one to four convulsions daily until the 29th. But they have not been so severe as before the operation.

REMOVAL OF PAROVARIAN CYST; RECOVERY.

DR. E. E. MONTGOMERY presented the specimens, and related the history as follows: Mrs. A., æt. 30 years, native of England, married, never pregnant, has suffered from an enlargement of the abdomen for seven years. As it was first noticed a few months after her marriage, she supposed herself pregnant. Her menses have never been interrupted, now occur every three weeks, are very slight, and have never been excessive. She suffers from severe pain the week before menstruation over the lower portion of the abdomen and through the hips. She suffers at other times from pain in the feet and legs, and from a sensation of weight. The tumor has been tapped some six times. The fluid was always of a pale straw color. The largest quantity removed at any one time was forty pounds. Previous to its removal, her weight was one hundred and two pounds. The last tapping was on June 27, 1884. She has had four attacks of peritonitis.

When first seen last July, two weeks after the last tapping, the abdomen was swollen, and tender to pressure; fluctuation was distinct. Since that time the abdomen has increased considerably in size, presenting a prominent tumor distending the whole abdomen, nearly symmetrical, but projecting slightly to the right side; circumference at umbilicus 32 inches, distance from symphysis to umbilicus 7 inches, to ensiform 13 inches; fluctuation distinct over the whole tumor, coughing projects the whole mass forwards and downwards. Her general condition is good. She is quite active. *Diagnosis*, a parovarian cyst. *Plan of operation*, exploratory incision, remove the tumor if possible, but if the adhesions were too great to permit that, then to open the sac, stitch it to the integument, and introduce a drainage-tube and thus secure obliteration of the sac.

Operation, October 9th, abdominal wound 4 inches, adhesions universal, but generally broken up without difficulty, no ligatures were needed. The intestines were not seen, being concealed by old inflammatory deposits. The right ovary was enlarged, and was also removed. The wound was closed with seven sutures, and a glass drainage-tube introduced. Salicylated cotton in a thick layer was placed over the wound. Suppositories of morphia were used to control pain, which continued to a greater or less extent for two weeks, arising partly from inflammatory conditions and partly from collections of gas in the intestines. The abdominal wound discharged freely—three ounces the first day. The drainage-tube was removed on the 13th, four days after the operation, but the discharge of bloody serum, pus, and flaky lymph continued for full two weeks later, when the wound closed entirely, and the patient was discharged.

CORRESPONDENCE.

HYDROCHLORATE OF COCAINE IN MINOR SURGERY.

To the Editor of THE MEDICAL NEWS.

SIR: Contributions as to the use of the hydrochlorate of cocaine as a local anæsthetic are now of value in as much detail as practicable. I therefore beg leave to state that, assisted by Dr. T. Mitchell Prudden, Director of the Pathological Laboratory of the College of Physicians and Surgeons in New York, and Lecturer on Histology in this College, I to-day removed a small tumor about the size of a marrowfat pea (suspected epithelioma) from the cheek of an elderly lady, without causing her any appreciable pain during the operation, by the use of this drug. I first injected subcutaneously five minims of a four per cent. solution of the drug, obtained from Dr. E. R. Squibb, of Brooklyn, and after waiting ten minutes, as she said she still felt the point of the hypodermic needle perceptibly, I repeated the dose. At the end of ten minutes more, as she said she still felt the needle, I injected five minims more *into* the skin. It required some force to the piston of the syringe to inject this into the firmer tissue. At the end of five minutes more I began the cutting; the patient said she "felt it, but it didn't hurt—it felt like scraping." The piece removed was about three-quarters by half an inch. There was quite a free hemorrhage from the little wound and I waited fully five, perhaps eight minutes for that to subside, when the sutures were introduced. She then exclaimed, "There! that hurts! that is worse than anything I have felt yet!" After dressing the wound, the time from the first injection was thirty-seven minutes. As she left the office she expressed herself as experiencing a sense of exhilaration; and "felt much better than when I came in."

It is unnecessary to enlarge upon the prospect thus opened to us certainly in the field of minor surgery, aside from its uses in ophthalmic practice, if the reports so far given of the effects of this new anæsthetic should be confirmed by further experimentation. I desire to record my experience of its action as applied to the external skin, and to point out that (I think) I found a better effect by injecting the solution *into* the skin rather than under it.

Yours, etc.,
W. H. CARMALT, M.D.,
Professor of Surgery in the
Medical Department of Yale College.

NEW HAVEN, CONN., Nov. 15, 1884.

NEW INVENTIONS.

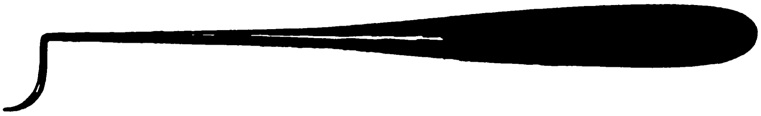
A NEW CERVICAL NEEDLE.

BY CHARLES MEIGS WILSON, M.D.,
OF PHILADELPHIA.

THE needle represented in the accompanying cut was specially designed to overcome the difficulty in approximating the denuded surfaces in Emmet's operation for restoring a lacerated cervix. The penetrating arm is placed at a right angle to the shank or handle—giving the instrument great leverage, and consequently penetrating power, and great freedom of motion. The eyelet is placed just behind the lance-shaped point; the needle is intended to be threaded after it has pierced the tissues.

The arc of curvature in the penetrating portion of the needle is small. The needles are made both right- and left-handed to suit the convenience of the operator and the exigencies of the case. In suturing a freshened cervix, it is best to commence with the right-hand needle, passing it from above downwards, the operator commencing on his right-hand side—the patient's left. He may continue in this manner until the whole wound is closed, or use the left-hand needle for that portion of the wound to the right-hand of the median line of the cervix. The needle has also been advantageously used in closing both recto-vaginal and vesico-vaginal fistulæ. Recently, at the Pennsylvania Hospital, Dr. Levis used it in the latter operation to close the wound after other means had failed. It is especially serviceable when the fistula is high up. It has also been successfully employed in catching up the peritoneum in closing abdominal wounds.

The advantages claimed for it are the great purchase it gives the operator in piercing dense, hard tissue, and its power of penetration. Every one, in operations about the cervix and upper portions of the vagina, must have experienced difficulty in manipulating the ordinary straight or curved needle managed by the needle-holder, felt the want of play or freedom of motion, and sometimes been in doubt as to where the needle was really going. Again, the pressure exerted upon the needle by the needle-holder often causes it to break, and the ordinary needles have the eye at the end engaged by the needle-holder, and in removing the needle-holder the suture is often inadvertently withdrawn. These difficulties have been overcome in the hands of the author. Dr. E. Wilson has used these needles in a series of hystero-trachelorrhaphies now numbering one hundred and twenty; Dr. Thomas Morton in a large number of cases, and many other gentlemen engaged in the practice of gynecic surgery. Correct patterns of the needles can be obtained from the well-known surgical cutler, Mr. Snowden.



NEWS ITEMS.

NEW YORK.

(From our Special Correspondent.)

Successful Laparotomy for Gunshot Wound of Intestine.—Dr. W. T. Bull recently performed a most remarkable and successful operation of laparotomy, extracting a conical ball of forty-four calibre from the intestines of a would-be suicide.

The Invasion of Cholera.—Grave fears are entertained of the invasion of Asiatic cholera. Dr. F. H. Hamilton recently read a paper calling attention to the introduction of the disease into this State by way of the suspension bridge many years ago. Dr. J. C. Peters, who has given special attention to the study of the disease, expressed his fear of its approach, and the Secretary of the Treasury has been appealed to by a number of medical men who besought him to take active measures for prevention.

The Charity Hospital Training School graduated eighteen nurses last week, all of whom will doubtless find immediate employment. Despite the large number of trained nurses, it is very difficult at times to find one disengaged. Many of these young women soon tire of their calling, and either take up new kinds of occupation or enter into partnerships which lead eventually to other forms of nursing.

CHICAGO.

(From our Special Correspondent.)

The Chicago Medical College opened on September 23. Several changes have been made in the faculty. The chair of physiology, left vacant by the resignation of Dr. Henry Gradle, has been filled by the appointment of Dr. R. W. Bishop (Friedrich Wilhelm University, Berlin). Dr. I. U. Danforth has assumed the duty of teaching the pathology of renal diseases. Dr. W. E. Casselberry (University of Pennsylvania) has been elected Professor of Materia Medica and Therapeutics. Dr. W. W. Jaggard (University of Pennsylvania) has been elected Adjunct Professor of Obstetrics. To Dr. Frank Billing's duties as Demonstrator of Anatomy, the faculty has added those of Lecturer on Physical Diagnosis. Dr. J. S. Marshall has been elected lecturer on Oral and Dental Diseases. Dr. N. S. Davis, Jr., has been appointed Lecturer on General Pathology and Pathological Anatomy, working under the direction of Prof. Christian Fenger, M.D., who has full charge of this department. Dr. Frank S. Johnson has been appointed Lecturer on Histology, acting under the direction of Prof. Lester Curtis, M.D. The system of instruction at Chicago Medical College comprises three consecutive annual courses of lectures. Chicago Medical College was *the first* institution in the United States to make this radical change in medical education. The duration of the winter session is six months. The members of the first year class number 48; second year class, 31; third year class, 42. The clinical facilities of the institution are afforded by Mercy Hospital, St. Luke's Hospital (recently enlarged), Michael Reese Hospital, and the South Side Dispensary.

Rush Medical College opened also its doors on September 23, with a graduating class numbering 140 men, and a new class of 260 members. The duration of the winter term is twenty-one weeks. The Cook County Hospital, the Presbyterian Hospital, and the Central Free Dispensary furnish abundant material for clinical instruction. The Presbyterian Hospital has been recently constructed, at a cost of $50,000, and placed under the guardianship of the faculty of Rush Medical College. Thirty beds are now occupied by patients. The attendance at the Central Free Dispensary during the past year has been exceptionally large. Twenty-seven thousand cases have been treated during this period in the various departments.

The College of Physicians and Surgeons opens its annual session with a graduating class of 60 men. and 105 undergraduates. Recent changes in the faculty have been made. Dr. S. K. Crawford, of Monmouth, Ill., has been elected Professor of Surgical Anatomy; Dr. H. D. Valin has been appointed Assistant to the chair of Physiology; Dr. A. J. Sauniere, of Liberty, Ill., has been chosen as Lecturer on Histology. Material for clinical instruction is derived from the Cook County Hospital and the West Side Dispensary. The length of the winter session is twenty-one weeks.

The Woman's Medical College has a term embracing fully seven months of consecutive instruction by the regular faculty. The graduating class numbers 30, while the first year class has 41 members.

A Continuous, Tepid-water Bath on the place, suggested by the elder Hebra, is in course of construction in the Michael Reese Hospital. This hospital has a maximum capacity of ninety beds, with surgical instruments, electrical apparatus, etc., valued at $10,000.

Diphtheria.—Epidemic diphtheria on the west side of Chicago, and in various parts of the State, of a peculiarly malignant type, has been reported by Health Commissioner De Wolfe. Dr. De Wolfe, at the time of writing, is engaged in the investigation of the alleged epidemic.

CINCINNATI.

(From our Special Correspondent.)

The Health of Cincinnati.—The long-continued healthful condition of our city appears to be about at an end. The rate of mortality, for several months exceptionally low, was last week 22.91 per thousand per annum, as announced in the weekly report of the health office. There were in all 123 deaths during the week. More of these were due to consumption than to any other disease. In three wards of the city measles is almost epidemic, and of a rather severe type; other parts of the city are free from the disease. Diphtheria, scarlatina, and typhoid fever are also present in the city.

The Colleges.—The attendance at our colleges this winter is unusually small. The Medical College of Ohio still takes the lead with a few more than two hundred students, while the Miami has about one hundred, and the Cincinnati forty.

Cocaine.—Prof. W. W. Seely, in his dispensary in the Medical College of Ohio building, the largest dispensary in the city, has used this new remedy. Of course, with a limited amount of the drug, no absolutely convincing conclusions could be arrived at. That it reduces the conjunctival and corneal sensibility, there can be no question. Where the corneal and conjunctival sensibility is increased by disease, the results are less striking. For all superficial operations, such as removing foreign bodies from the cornea, inserting the speculum, fixing the eye with the forceps, etc., it certainly has a wonderful effect. One patient upon whom tenotomy of the external rectus had previously been performed, said that all the ordinary steps, such as the presence of the speculum, fixing the eye, etc., were freed from pain, while the hooking up of the tendon was attended with about the same amount of pain as he had formerly experienced. The most striking cases Prof. Seely has had were two of corneal pricking, for opacities. Neither patient complained at all, nor was there any redness of the eyes the next day, as the remedy evidently contracts bloodvessels. This property was noticed in all the cases in which it was used. In a case of phlyctenular keratitis, the remedy acted admirably.

At a meeting of the Academy of Medicine, about two weeks ago, Dr. Seely gave a practical demonstration of the action of cocaine. He first had a few drops of a five per cent. solution instilled into his own eye to learn what effect it would have upon a slight neuralgia from which he happened to be suffering. The pain was promptly relieved and did not return for two hours. A few drops of the same solution were then instilled into the eyes of two other members of the Society, and the anæsthetic action of the drug fully demonstrated.

MONTREAL.

(From our Special Correspondent.)

Quebec Lunatic Asylums.—At a largely attended meeting of the Montreal Medico-Chirurgical Society, held on the 7th instant, resolutions were passed and forwarded to the Provincial Government, which strongly condemned the existing method of treating and caring for the insane poor. The following are the most important of these resolutions:

"That it appears to this Society to be the imperative duty of the Provincial Government to institute a thorough investigation, by competent persons, into the entire system of management of the insane poor of this Province.

"That the 'farming' or 'contract' system, either by private individuals or by private corporations, has been everywhere practically abandoned, as being prejudicial to the best interest of the insane, and producing the minimum of cures.

"That all establishments for the treatment of the insane should be owned, controlled, and supervised by the Government.

"That the degree of mechanical restraint known to be employed in our provincial lunatic asylums is excessive," and after alluding to the fact that restraint by mechanical means is unnecessary and obsolete, the resolution continues, "that these facts call urgently, in the name of humanity, for reform in this direction in our provincial asylums."

The present medical management, or rather absence of management, was also condemned, and Dr. Tuke's damaging report stated to be "in every material respect, true and well founded."

The Sanitary Management of Diphtheria.—Owing to the prevalence of diphtheria in epidemic form in several parts of the State of Illinois, the State Board of Health, on November 14th, issued the following circular of sanitary information on the subject:

1. If one is subject to catarrh, or inflammatory affections of the throat, especial care should be paid to the condition of the general health and to the general hygienic surroundings. There is reason to believe that diphtheria originates spontaneously in such persons when the system is debilitated from any cause.

2. During the existence of diphtheria, avoid crowded gatherings in badly ventilated rooms, as in theatres, public halls, and even churches. This is of especial importance during cold weather.

3. Secure thorough ventilation and perfect cleanliness of nurseries, kindergartens, school-rooms, and other places where children are cared for. Parents should make it their personal business to secure these in the home and nursery, and to see that those in charge of schools, etc., are also mindful of these important matters. Children are more subject to diphtheria than adults, and the disease is more fatal with

them; hence the necessity of these precautions on their behalf.

4. During the existence of a case of diphtheria in the neighborhood, do not neglect any soreness of the throat, however slight, until assured of its harmless nature by the family physician.

5. Unless absolutely necessary, do not come in contact with, or inhale the breath of, one sick with sore throat. Avoid kissing, or eating, or drinking in common with such sick persons.

6. Diphtheria has so often appeared where uncleanly conditions have prevailed, when it could not be traced to continuous propagation by contagion, that its relation to filth as a cause may be assumed for sanitary purposes. It is immaterial whether the filth exists in visible and disgusting forms, such as the garbage-heap, the cesspool, or the privy-vault, or in the invisible and possibly inodorous gases from an illy constructed sewer, from decaying vegetables in the cellar, or in the poisonous exhalation from the human breath and body in unventilated rooms. All these undoubted causes of ill-health should be at once abated.

7. Because of the fact stated in No. 3, an adult may venture when necessary to come in contact with a case of diphtheria; but no child should ever be so exposed, either directly or indirectly. Adults who are compelled to visit such cases should take the precaution to bathe and change clothing before going near a child. Children should be prevented from entering the water-closet or privy into which diphtheria discharges are thrown, even after disinfection. In short, they should be removed at once and definitely from any possibility of contagion during the existence of a case.

8. Cats, dogs, cows, swine, and some other of the lower animals are known to be subject to diphtheria, and fatal cases among human beings have been contracted from them. Avoid, therefore, having anything to do with a cat, dog, cow, hog, or any other animal suffering from any throat disease until it is known not to be diphtheria.

9. Outbreaks of the disease have been traced to the carriage of the contagion by the wind. Therefore, it is advisable to close the windows and doors, and avoid as much as possible the side of a house toward a known infected house or locality, especially during the prevalence of high winds from that direction.

10. There are no specifics or antidotes for diphtheria. The resort to such can do no possible good, and may lead to harm.

YELLOW FEVER.—There were 24 deaths from yellow fever at Havana during the month of October, out of a total mortality of 549, and 2 deaths from yellow fever during the week ending November 8th.

Gov. Ireland, of Texas, has raised all quarantine restrictions in that State, except against the Island of Cuba.

DARTMOUTH COLLEGE.—At the graduating exercises of the Medical Department of Dartmouth College, held on November 11th, the degree of M.D. was conferred upon eighteen graduates.

OBITUARY RECORD.—Died, at Northampton, Mass., on November 16, of organic disease of the heart, DR. SAMUEL AUGUSTUS FISK, aged sixty-three years. Dr. Fisk was born at Cambridge, Mass., and was educated in Phillips' Exeter Academy and at Yale College, receiving his Bachelor's degree in 1844. He studied medicine at Harvard College and at the University of Pennsylvania; he received his degree from the latter institution in 1846, and settled in Northampton in 1848. He was an ex-President of the Massachusetts Medical Society, was a lecturer on Physiology and Hygiene in Smith College, and a trustee of the Clark Institute for Deaf Mutes.

—— Died, suddenly, at his home in New Orleans, on November 17th, SAMUEL M. BEMISS, in the sixty-fourth year of his age. He was born in Nelson County, Ky., in 1821. His preliminary education being received from his father and private tutors, he subsequently entered the Medical Department of the University of New York, graduating with the degree of M.D. in 1846. He commenced the practice of his profession in Bloomfield, Ky., and remained there until 1853, in which year he removed to Louisville, where he practised until 1865, with the exception of the period from 1862 to 1865, when he was a surgeon in the Confederate army. He was Secretary of the American Medical Association in 1858, and Vice-President in 1868; was a member of the Boston Gynecological Society; in 1858 he was Professor of Clinical Medicine in the University of Louisville; of Hygiene and Medical Jurisprudence in 1859–60; of Materia Medica and Therapeutics in 1861; of Physiology and Pathology in 1865. From the time of his removal to New Orleans, in 1866, up to the time of his death, he was Professor of the Practice of Medicine and of Clinical Medicine in the Medical Department of the University of Louisiana. During the yellow fever epidemic of 1878 he was the representative of the National Board of Health in New Orleans.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 11 TO NOVEMBER 17, 1884.

BYRNE, C. C., *Major and Surgeon.*—Granted four months' leave of absence from November 16, 1884.—*S. O. 265, A. G. O.*, November 11, 1884.

TREMAINE, W. S., *Major and Surgeon.*—Granted leave of absence for one month, on Surgeon's certificate of disability.—*S. O. 233, Department of the East*, November 12, 1884.

HAVARD, VALERY, *Captain and Assistant Surgeon.*—Granted leave of absence for four months, with permission to go beyond sea, to take effect when his services can be dispensed with at his present station.—*S. O. 268, A. G. O.*, November 14, 1884.

SHUFELDT, R. W., *Captain and Assistant Surgeon.*—Assigned to duty as Post Surgeon at Fort Wingate, New Mexico.—*S. O. 217, Department of Missouri*, November 4, 1884.

WM. O. OWEN, JR., *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Fort Canby, Washington Territory, and ordered to Fort Spokane, Washington Territory, for duty.—*S. O. 169, Department of Colorado*, November 4, 1884.

PHILLIPS, JOHN L., *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Fort Keogh, Montana Territory.—*S. O. 134, Department of Dakota*, November 5, 1884.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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ORIGINAL LECTURES.

REMARKS ON MEDICINAL AND NON-MEDICINAL THERAPEUTICS.

An Address Delivered at the First Annual Meeting of the New York State Medical Association, November 20, 1884.

BY AUSTIN FLINT, M.D., LL.D.,

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IN order that the scope of my remarks may be apprehended at the outset, it is necessary to define the terms embraced in the title of this address.

The term therapeutics may denote only the employment of medicines—that is, drugs. This is a limited sense of the term. In a broader sense it comprehends the treatment of diseases not by medicines alone, but any means or appliances. The latter is the more correct definition according to the etymology of the term (θεραπεύω), and in this sense I shall now use it.

The term medicinal, as I shall use it, is restricted to the employment of drugs.

The title which I have chosen might be otherwise expressed as remarks on the treatment of diseases with and without drugs.

From time immemorial, it has been considered to be the chief office of the physician to prescribe and regulate the employment of drugs. Not entering at all into the past history of medicine, let me ask, What is the prevailing popular sentiment at the present time, in all countries, respecting the part which medicinal therapeutics play in medica practice? Is it not that the practice of medicine, exclusive of the use of drugs, would be like the play of "Hamlet" with the part of Hamlet omitted? How many patients at this day would be satisfied to be treated for an illness without drugs?

Several years ago, my friend, Professor Alfred Stillé, visited with me my wards at Bellevue Hospital. I pointed out a patient who had recovered from pneumonia, the disease having passed through its course in the most favorable manner. As we were leaving the patient he exclaimed, in a tone of much irritation, "No thanks for my getting well; I have not had a particle of medicine since I came into the hospital." The case had been left to nature, and nature had effected the recovery as quickly and as completely as possible; yet the patient was much aggrieved, and felt that he had been neglected. Now, had he been treated with perturbatory medicinal agents, which might have induced ailments in addition to those incident to the disease, perhaps prolonging the duration of his illness and rendering his convalescence tedious, doubtless he would have been satisfied, and possibly have felt grateful to his physician. Have not many of those whom I now address met with analogous instances in which patients, having been subjected to little or no medication, have manifested after recovery no sense of obligation for medical services? Some may even have reproached themselves for having incurred the unnecessary expense of medical attendance, and may perhaps have declined to make an adequate pecuniary compensation. Professional visits not supplemented by requisitions on the apothecary are deemed by many valueless. The worth of medical attendance is measured, in the minds of not a few, by the number of drugs prescribed. How generally, after a consultation, is it asked, "What new remedies are to be given?" and how often a feeling of disappointment, if the consulting physician have simply concurred in the propriety of the remedies already in use —leads to the reflection that a consultation might just as well not have taken place!

The twofold sense of the term medicine is significant. In one sense of the term medicine denotes a "science, the object of which is the cure of diseases and the promotion of health." In another and the more popular sense the term denotes a medicinal agent or a drug. The same is true of the term physic. Up to a late period this term was used in a sense synonymous with the term medicine as the name of a science. Popularly the term physic means a drug, and especially a purgative drug. These facts are cited to show that outside of the medical profession the practice of medicine and medicinal therapeutics are regarded as about one and the same thing.

It is a general impression with those who are not of the medical profession that eminence in this profession is based chiefly on superior attainments in medicinal therapeutics. The fact that one may be an accomplished anatomist, an erudite physiologist, a profound pathologist, and a distinguished diagnostician, irrespective of extraordinary knowledge or skill in the medicinal treatment of diseases, is not appreciated. In this point of view, the science of medicine in the popular mind is identified with the employment of drugs.

Now, it is needless to argue before this audience that a physician is not to be regarded purely as a prescriber of drugs; that the terms medicine and physic may have a broader and higher sense than that which limits their application to the materia medica, and that true eminence in the profession is by no means derived exclusively from medicinal therapeutics. I need not say that to withhold drugs in the treatment of cases of disease is as important an exercise of professional judgment as to employ them. In view of the prevailing popular errors just referred to, it is often more politic for the medical practitioner to employ than to withhold drugs. By withholding drugs he may not only disappoint the expectations of his patients or their friends, but he incurs a risk of having his disuse of drugs attributed to want of either knowledge of the disease or of interest in the case, and thereby to a withdrawal of confidence. The prevalence of these errors thus places the practitioner in a false position. Nothing is easier than to prescribe drugs. On the other hand, to refrain from their use may require, in addition to knowledge and judgment, not a little firmness and independence. An ignorant or weak practitioner, therefore, may be tempted to pursue a medicinal treatment in opposition to his judgment, or in order to cover up his lack of knowledge. Herein the popular errors may interfere with the usefulness of medical practice. Moreover, these errors do injustice to the science of medicine as well as to the medical profession.

The time will come when the physician will not be regarded as solely a therapeutist, but as a medical counsellor, whose functions embrace the preservation of health and the prevention, not less than the treatment, of diseases. Patients will then congratulate themselves, and be congratulated by their friends, whenever it is decided by the physician that potential drugs are not called for; but, as it should be added, drugs will then never be withheld if, in the judgment of the physician, they are indicated. This reformation, if I may so call it, is to be brought about by a change in popular ideas respecting the practice of medicine. Let the public understand that drugs are not to be employed, as a matter of course, whenever a physician is consulted or is in attendance. Let placebos be seldom, if ever, required for a moral effect. Let it be understood that, as modern clinical studies have demonstrated, many diseases end in recovery from an intrinsic tendency and self-limitation. Let it be popularly known that most medicinal agents are curative, not directly but indirectly, by the removal of obstacles in the way of recovery; that nature is always the efficient curative agent, and, therefore, that the physician is nature's servant, not her master. Let the value of medical science, in the palliation of suffering and the promotion of the toleration of diseases which do not admit of recovery, be fairly appreciated. When these desirable objects are accomplished, the medical profession will hold a position in public estimation higher even than it now holds; a more elevated standard of medical education will become a necessity, and the usefulness of the profession will be increased. Moreover, this reformation will prove the most efficient of the means for the protection of the public against irregular and illegitimate systems of medical practice, and, as may be added, against the unworthiness of those who claim to be regular or legitimate practitioners. The most popular of the systems opposed to legitimate medicine and the regular profession at the present time is based on the assumption that diseases are controlled by drugs, according little or nothing to a natural tendency to recovery. Correct popular ideas of medicinal and non-medicinal therapeutics are incompatible with confidence in this or any system of practice which assumes that recovery from diseases is always due wholly to medicinal agencies. Let correct ideas prevail, and there will be fewer instances than now within the ranks of the profession of unworthy means to secure a local reputation and to enhance the sense of obligation for professional services; in other and plainer language, there will be less of quackery within, as well as without, the medical profession.

As preliminary to the reformation in popular ideas to which I have alluded, there must be more unanimity than now exists in the medical profession respecting medicinal therapeutics. There is considerable diversity among physicians with respect to their estimation of the importance of drugs, and a corresponding diversity in practice. There are practitioners who, in this point of view, exemplify opposite extremes. Some practitioners have an excessive and unwarrantable faith in drugs; others are excessively and unwarrantably sceptical. Any practitioner who has a considerable number of acquaintances among his fellow-practitioners will readily recognize examples of each of these extremes. Pharmacomania is a form of mental aberration affecting alike certain physicians and patients. The latter have a morbid craving for, and the former an abnormal propensity to prescribe drugs. If it so happen that a pharmacomaniacal patient is under the care of a practitioner to whom that name applies, there may be mutual satisfaction, but, if not so mated, there is apt to be dissatisfaction on both sides.

The pharmacomaniacal practitioner never tires in the use of remedies. He has a distinct drug for every symptom, and remedies are multiplied in proportion as new symptoms appear. One may know that to this extreme a practitioner belongs by a glance at the array of phials, cups, and glasses at the bedside of the patient. The prescriptions, which accumulate daily, contain a multiplicity of ingredients, each, perhaps, designed for a particular object; or, to borrow a well-known comparison, they are like a heavily loaded shotgun—intended to do execution, although discharged without much regard to aim. His patients after recovery have a large collection of souvenirs consisting of the daily surplus of prescribed remedies. To the apothecary he is a "joy for ever." A catalogue of the medicaments presented by the apothecary as a memento shows that Molière did not exaggerate in the enumeration with which he opens his play, "*La malade imaginaire.*" The pharmacomaniacal practitioner is never discouraged in the use of new remedies. He reads medical treatises and journals with special reference to these, and he loses no time in giving his patients the benefit of all in succession. As one new remedy after another becomes obsolete in consequence of having been found useless or injurious, he relinquishes it only to supply its place by one still more recent, always accepting the latest with as much avidity as he had accepted the remedies which he has discarded.

The practitioners who exemplify the opposite extreme, the sceptic, or, as may be said, the disbeliever, need not be delineated, inasmuch as the picture would be precisely the reverse of that just presented.

Truth, of course, lies somewhere between these extremes, and between the truth and the extremes are different gradations. Here, as in other instances, "*in medio tutissimus ibis*" is the conservative maxim. The practitioner who holds a just medium between the two extremes has sufficient confidence in medicinal agents, but, recognizing that in proportion to their potency they do either good or harm, he must be satisfied that they are clearly indicated before he employs them. He will not prescribe potential drugs at a venture, but only for a clearly defined purpose. He shoots after having taken deliberate aim, and he shoots with the rifle in preference to the shotgun. He requires competent testimony, based on trustworthy experience, before subjecting patients to the trial of new remedies. Fully alive to the progress of knowledge in medicinal therapeutics, he holds fast to what is actually known, and adopts what is new on satisfactory evidence afforded by his own experience added to that of others. He may make original observations with a view to enlarge the boundaries of our therapeutical knowledge, but his observations are made with due precautions, not overlooking his responsibility for the welfare of his patients. His observations have for their sole object the discovery of truth for a beneficent end. He is conservative, but his conservatism is not fogyism. He cultivates and practises medicine as a science, but he never forgets that medicine is a science of which the pervading principle is humanity.

A fact not to be lost sight of is, that the only reliable basis of therapeutical knowledge is clinical experience. It is not sufficient to conjecture from the properties of drugs as to what they ought, reasoning *a priori*, to effect. It may take a long time for clinical experience to overthrow fallacious conclusions reached by such a method of reasoning. The results of experiments on lower animals must be accepted with caution. It is true that clinical experience is beset with difficulties which exemplify the Hippocratic axiom *experientia fallax*. The *post hoc, ergo propter hoc* errors are often enough alluded to; nevertheless, they abound in the practice of medicine. How often can we be assured, when notable improvement has followed a measure of treatment, that the same improvement would not have followed the employment of a different measure, or if nothing had been done therapeutically! Great as are the difficulties in the way of determining the precise therapeutical value of drugs, clinical experience is the only tribunal from which there is no appeal.

It is a striking fact that our knowledge of medicinal agents which are acknowledged to have the most special therapeutical value, until lately rested wholly on an empirical basis—that is, their *modus operandi* was entirely unknown. This is true of cinchona and other antiperiodic drugs, mercury and iodine in syphilis, and chalybeates prior to our present knowledge of anæmia. At the present time it can be said that the therapeutic value of cinchona, mercury, and iodine probably depends on their efficacy as parasiticides. This explanation came long after the discovery of the therapeutic value of these drugs. It is not easy to name drugs of equal therapeutic value, to the knowledge of which *a priori* reasoning led the way. Yet, although clinical experience is the only basis of our actual knowledge, analogical and speculative reasoning may, with propriety, precede the appeal to that tribunal. The explanation of the *modus operandi* of the remedies just named, together with the recent most important developments in etiology, has given a direction to therapeutical observations which may lead to an immense advancement of our knowledge of medicinal therapeutics. I refer to discoveries respecting the parasitic origin of certain infectious diseases. Let the doctrine be established, as may be expected, that all infectious diseases are parasitical, and let the class of infectious diseases be enlarged, as may also be expected, and the therapeutical problem will be to ascertain by clinical experience a parasiticide for each parasite. Let this be accomplished, and therapeutics will have undergone a revolution, the extent of which it is impossible to foresee. It is most inspiriting to think of the lustre to be conferred on medicine, and of the boon to humanity, by the ability to control all the essential fevers, together with septicæmia, epidemic cholera, influenza, pertussis, dysentery, and last, but first in relative rank as a life-destroyer, pulmonary phthisis! Never before could the medicine of the future have appeared more bright and encouraging than at the present outlook.

My remarks thus far have had reference to medicinal therapeutics. In the same desultory way I shall offer some remarks on non-medicinal therapeutics.

As a rule, medical practitioners who overestimate medicinal therapeutics underestimate, in an equal ratio, non-medicinal therapeutics. The pharmacomaniacal practitioner is not likely to give much heed to non-medicinal measures of treatment. So, also, the pharmacomaniacal patient is prone to disparage and neglect measures which are non-medicinal. He places his reliance solely on the materia medica. It is perhaps true that drugs, oftener than non-medicinal measures, are used to an injudicious extreme, and that generally the evils of the former are greater than those of the latter; nevertheless, errors in the treatment of diseases irrespective of drugs are by no means infrequent, and may be productive of not a little harm. To some of these I shall advert. My remarks will relate to diet, to the use of alcohol, to "cold-catching," and to mental influences exerted upon patients.

Alimentation is not less an essential factor in therapeutics, as applied to both acute and chronic diseases, than in the maintenance of health. Certain fundamental principles of dietetic therapeutics are to be kept in view. One of these is that there is never danger from over-nutrition in either acute or chronic diseases. Whatever risk there may be of harm from an over-ingestion of food relates to the processes preliminary to assimilation and nutrition.

Another fundamental principle is that the immediate lethal agency, when diseases destroy life by slow asthenia or exhaustion, is chiefly innutrition. Graves acknowledged indebtedness for the suggestion of his plan of "feeding fevers" to a country doctor, who said that he seldom lost patients with fever provided they were not allowed to die of starvation. Now, what is true of fevers as regards the importance of a sustaining diet is equally true of all diseases which kill by slow asthenia. Death is due to starvation, and may be averted if effective assimilation and nutrition be practicable. In all chronic diseases which admit of recovery, this termination is the more assured and expeditious, as a general statement, the better nutrition is maintained. The tolerance of those diseases which do not admit of recovery and the prolongation of life are promoted in proportion as alimentation can be made conducive to nutrition.

It follows from these principles that, in cases of either an acute or a chronic disease, the question is not whether the patient is in danger of being over-nourished, but, on the contrary, whether alimentation is adequate to the capabilities of the processes relating to nutrition. Patients cannot be over-fed so long as the food taken is digested, assimilated, and appropriated by the tissues. As it is impossible always to graduate with exactness the quantity of food to the digestive, assimilative, and nutritive powers, it is evident that the quantity must often either exceed or fall below the capabilities of the processes relating to nutrition. Now, of the two evils, which is the less? I answer, an overplus of aliment, inasmuch as nature provides for a redundancy more than for a deficiency of alimentary supplies.

It is a sound maxim in medicine that the therapeutic indications derived from science and from nature, as a rule, should harmonize. If they be in conflict, the scientific indications are open to suspicion. I will add, as another maxim, that the true principles of therapeutics are in accordance with the dictates of common sense. If there be antagonism here, when are considered the liabilities to error in scientific deductions, it is reasonable to suspect the correctness of the latter. These maxims are applicable to the dietetic treatment in diseases. Nature's indications as regards diet relate to appetite and the sense of taste. That appetite and taste were intended to govern the choice and quantity of aliment in health no one can doubt, especially if it be added that the indications derived therefrom are to be regulated, to a certain extent, by reason and experience. But it is a popular error that these natural indications are necessarily morbid in cases of disease, and that, instead of being recognized as constituting a governing principle, they are to be opposed. This popular error prevails to a certain extent in the medical profession. How often, perhaps I should say how common, is it that patients with different diseases are denied food when nature indicates the need of it by the sense of hunger! How common, when food is allowed, for patients to be denied the articles of food which they desire and made to take articles which they dislike! I look upon this disregard of nature's indications in the same light as upon the exclusion of fresh air from the sick-room, against which Sydenham was the first to rebel, and upon those restrictions in the use of water internally and externally which have not even now become obsolete. The dietetic regulations, in cases of disease, need reform to-day fully as much as reform was heretofore needed in regard to air and water. It is evidence that science is astray whenever it opposes, instead of coöperating with, the indications of nature.

There are, however, conditions of disease in which the instincts fail to express the needs of the system by means of appetite and taste, for the reason that the needs are not felt, owing to morbidly blunted perceptions. These conditions exist in the essential fevers, especially typhus and typhoid fever. Under these circumstances, the knowledge and judgment of the practitioner must, as far as practicable, take the place of nature's indications. Science must assume the control, whereas, under other circumstances, it should merely regulate the dietetic treatment under the governing influence of the instincts. The problem, then, is to satisfy the needs of nutrition as fully as possible, irrespective of any guidance by the instincts of the patient. Both reason and experience show how precious, under these circumstances, are the foods in which are combined, by the hand of nature, in due proportion, all the elementary principles—namely, milk and eggs. For these there are no substitutes. Supplementary thereto are the various farinaceous foods, and the animal foods other than those just named.

With regard to meats, a common error, both popular and professional, and one productive of a vast deal of harm, is to consider their nutritive value as fairly represented by either infusions or decoctions, or by the juices obtained by pressure. The valuation by most persons outside of the medical profession, and by many within it, of beef-tea or its analogues, the various solutions, most of the extracts and the expressed juice of meat, is a delusion and a snare which has led to the loss of many lives by starvation. The quantity of nutritive material in these preparations is insignificant or *nil*, and it is vastly important that they should be reckoned as of little or no value, except as conducive indirectly to nutrition by acting as stimulants for the secretion of the digestive fluids or as vehicles for the introduction of nutritive substances. Furthermore, it is to be considered that water and pressure not only fail to extract the alimentary principles from meat, but the excrementitious principles, or the products of destructive assimilation, are thereby extracted; hence, not very inaptly, beef-tea has been compared to urine, and, a few years ago, a German experimenter, whose name I cannot recall, declared that he produced fatal toxæmia in dogs by feeding them with this popular article of diet.

Meat liquefied and retaining all its alimentary principles is a great desideratum in dietetic therapeutics. The preparation known as Leube's Meat Solution consists of flesh brought by artificial digestion to the condition of peptones. It is an equivalent of the solid flesh, and, therefore, represents all the alimentary principles of meat. A late improvement in the preparation by Rosenthal has made it acceptable to the palate. This method of preparing meat in a liquid form should supersede most of the various preparations which are more or less in vogue. It is desirable that the merits of preparations after the methods of Leube and Rosenthal, not only of beef, but of the various kinds of meat, should be properly appreciated by physicians and patients.

Chewing meat and rejecting by exspuition its nutritive constituents is a practice not less irrational, unscientific, and opposed by common sense, than disgusting. As a rule, if meat is craved and agreeable to the palate, it is allowable; and it is a shame to tantalize nature's cravings with the shadow, withholding the substance.

In leaving the subject of diet, I will express the belief that not a few maladies, more especially those affecting the nervous system, often originate in, and are protracted by, insufficient alimentation. Evidence of the correctness of this belief is afforded by the successful treatment of certain nervous affections in women after the plan inaugurated by Weir Mitchell, in which alimentation is an essential factor. In place of the senseless apothegm, "death in the pot," it might be more pertinently said, life in the pot, inasmuch as this utensil, if regarded as the symbol of aliment, represents health and vigor.

The question whether alcohol is a food has, within late years, given rise to much discussion and investigation. As I suppose, few, if any, now hold to the opinion that the sum total of alcohol ingested is eliminated from the body as alcohol, or deny that it supplies a material for the production of animal heat. It is, therefore, a food. All will admit that it may be made a potential agent for either good or harm. The use of alcohol as a therapeutic agent should have no connection with its use or abuse in health, except as regards proper precautions, lest its use in illness may eventuate in an alcoholic habit after recovery. A physician may be a zealous advocate of total abstinence in health, but evidently his zeal should not lead him to withhold alcohol from his patients whenever benefit is to be derived from its employment as a therapeutic agent. It were, indeed, a cruel injustice to patients to deny them this benefit because a vast amount of misery and crime is attributable to alcoholic intemperance. The value of alcohol in therapeutics and the indications for it are to be determined precisely as in the instance of any other therapeutic agent. Opium, like alcohol, is capable of abuse in health, but who will say that thereby it is any the less worthy of the eulogium of Sydenham, who called it the *magnum donum Dei!*

In the medical practice of the last century there have been notable oscillations in the use of alcohol as well as of other therapeutic agents. The doctrine of Brown, which, on purely theoretical grounds, led to its free use, was followed by that of Broussais, which stigmatized its use as incendiary on grounds equally theoretical. Its free use came again into vogue about forty years ago. Todd was then its ardent advocate, and he was, perhaps, the first to emphasize its agency as a food. Its use for several years was doubtless too indiscriminate, and carried to an extreme. At the present time there is considerable diversity of opinion and practice as regards its use among medical practitioners, but the tendency of late years has been to use it with more and more reserve. Where lies the truth between the extremes as regards the proper place of this agent in therapeutics? I shall not undertake to answer this question. It covers too much space to be considered on this occasion. I will only remark that the oscillations in the past and the diversity in practice at the present time show conclusively the need of further investigation. Here is one of the many questions in therapeutics which call for the analytical study of carefully recorded clinical experience.

I have endeavored to do something in the way of this study with reference to phthisis and the continued fevers.[1] As a conclusion based on the analysis of a considerable number of recorded cases, I feel warranted in affirming that, in a certain proportion of the cases of phthisis, alcohol antagonizes the progress of that disease, and that in the treatment of the continued fevers (typhus and typhoid) it is a means of saving lives which without it would be lost. Reasoning by analogy, it is a logical conclusion that with similar indications it is an important therapeutic agent in the treatment of essential fevers other than those just mentioned, and also of diseases of which fever is symptomatic.

It is a theoretical error, which I suppose to be common, to regard the action of alcohol within the body as purely that of a stimulant. A cardiac stimulant it undoubtedly is, and this is one of the modes in which it is useful. But the prevention of the waste of tissues by acting as a substitute for their components in the production of animal heat is another rational *modus operandi*. And another, hitherto not so much considered as it probably will be under the guidance of pathological developments now in active progress, is its antiseptic property.

If alcohol be useful as a material for combustion within the body, it is indicated in the condition of fever prior to the indications for its employment to sustain the failing powers of life. The object, in this point of view, is to forestall these indications and prevent the asthenia giving rise to them.

It is yet to be ascertained in what diseases, and to what extent, alcohol may act as an antiseptic, or a parasiticide, or an antidote. It has been supposed to counteract the noxious effects of certain venoms. A similar claim has been made for it, on the basis of experience, in the treatment of diphtheria. The conjecture is not unreasonable that in other fevers it may have a controlling influence by destroying, either directly or indirectly, the special causative agent, whether this be, or be not, a morbific organism. Here is an object for clinical observations. It is evident that, employed with a view to test fairly its value as an antiseptic, or a parasiticide, or an antidote, in different diseases, it may be important that alcohol be employed early, continuously, and in a quantity as large as may be tolerated. In its employment for these purposes, as also for the support of the vital powers, the greatly increased tolerance of alcohol in different diseases, and in different cases of the same disease, must be taken into account.

The phrase, to "catch cold," so often in the mouths of physicians and patients, is a curious solecism. It implies not only that the term cold denotes something positive, but that this something is a living entity, a sort of demon in etiology, which does not catch, but is caught by, the unfortunate victims. The synonym *Erkältung* pervades German medical literature remarkably. There are few diseases in the nosology in the causation of which "catching cold" does not enter, according to German writers. At the present time a question under discussion in Germany is whether pneumonic fever is attributable to "catching cold," and there appears to be an emancipation of the minds of some of the most distinguished of the physicians of that country from the traditional notion that this disease is the work of the etiological evil spirit represented by the *term* "cold."

There is an indefinite latitude in the phrase to "catch a cold." The phrase is used to denote an inflammation or a catarrh of the mucous membrane of the air-passages, but its application is extended to various affections in various situations. There is but little ground for its application to the etiology of the so-called nasal, pharyngeal, laryngeal, and bronchial catarrh; but I shall confine my remarks to the supposed danger of "catching cold" as involved in therapeutics.

If most persons outside of the medical profession were to be asked what they considered as chiefly to be avoided in the management of sick people, the answer would probably be "catching cold." I suspect that this question would be answered in the same way by not a few physicians. Hence it is that sick-rooms are poorly ventilated, and patients are oppressed by a superabundance of garments and bedclothes. The air which patients are made to breathe, having been already breathed and rebreathed, is loaded with pulmonary exhalations. Cutaneous emanations are allowed to remain in contact with the body, as well as to pervade the atmosphere. Free exposure of the body is deemed hazardous, and still more so bathing or sponging, the entire surface of the body being exposed. Patients not confined to bed, especially those affected with pulmonary disease, are overloaded with clothing which becomes saturated with perspiration, and is seldom changed for fear of the dreaded "cold."

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[1] *Vide* the following: Clinical Report on Pulmonary Tuberculosis; giving an Account of Twenty-four Cases of Arrested Tuberculosis, etc., Amer. Journ. of the Med. Sciences, January, 1858.—On the Management of Pulmonary Tuberculosis, with special reference to the Employment of Alcoholic Stimulants, Trans. of the N. Y. Acad. of Med., 1863.—Treatise on Phthisis: its Morbid Anatomy, Ætiology, etc., pp. 446, 1875.—Clinical Reports on Continued Fevers, based on an Analysis of 164 Cases, pp. 390. Buffalo, 1852.

These sketches are from life, and the observations of every medical practitioner furnish real illustrations. The supposed morbific agency of cold is a traditional error deeply rooted in the popular mind. It interferes often, in no small degree, with the satisfactory management of cases of disease. It is an obstacle in the way of securing for patients hygienic conditions, the importance of which may be greater than that of drugs. It is obstructive to the adoption, in cases of fever, of the antipyretic treatment, which is, perhaps, the most important of the improvements in modern therapeutics. How reluctant are physicians, on account of traditional ideas, to make trial of either the cold affusion of Currie, the cold bath, the wet sheet, or even sponging of the body, in cases of pneumonic fever, although testimony is ample of the safety and utility of these measures of treatment! Of those who are convinced of the safety and utility of these measures, how many hesitate to resort to them lest, if the termination be fatal, the death might be attributed to a therapeutic innovation so opposed to popular prejudice!

A reform is greatly needed in respect to "catching cold." Let the demon be exorcised first from the medical, and next from the popular mind! Let it be generally known and believed that few diseases are referable to the agency of cold, and that even the affection commonly called "a cold" is generally caused by other agencies; or, perhaps, by a special agent which may prove to be a microbe. Let the axiom, "a fever patient never catches cold," be reiterated until it becomes a household phrase! Let the restorative influence of cool, fresh, pure atmosphere be inculcated! Let it be understood that in therapeutics, as in hygiene, the single word *comfort* embodies the principles which should regulate coverings and clothing. Non-medicinal therapeutics will have gained much when this reform is accomplished.

My concluding remarks will have reference to mental influences to be exerted on patients.

I have often thought that a consideration of the influences which the physician may exert, either for good or harm, on the minds of his patients, should hold an important place in therapeutics. Our text-books are silent on this subject, and I am not aware that much, if any, attention is given to it in oral teaching. It cannot, however, be doubted that success in the management of cases of disease often depends largely on mental influences conjoined with other measures of treatment.

The mental constitution of some practitioners is unfortunate as regards the exertion of favorable influences on the minds of patients. As we all know, there are members of our profession with no lack of ability or of educational requirements, who are irreproachable in character, whose manners are unobjectionable, and who are in all respects gentlemen, but who are not successful in medical practice. Something is lacking which it is not always easy to define. There is a loose screw in the mental mechanism, the effect being an inability to inspire patients with confidence, faith, and hope—three potential elements in therapeutics. It is fortunate for the physician and for patients if this lack of constitutional fitness for the practice of medicine is discovered early, and if it lead to the adoption of some pursuit to which there is a better adaptation.

There are certain rules bearing on the influences to be exerted on the minds of patients which should be considered and adopted, although they may not accord with the natural temperament or disposition of the practitioner. Here, as in other instances, we find in the practice of different physicians two extremes which are widely apart. Here, too, is applicable the trite maxim, "*In medio tutissimus ibis.*" Let me endeavor to sketch an illustration of each extreme.

I have in my mind's eye the picture of a practitioner whose mental temperament is in a high degree sanguine and hopeful. It is difficult for him to look in any other direction than the bright side of a case. His attention fastens on all the encouraging points. He instinctively exaggerates these, and undervalues those which are discouraging. All the possibilities as regards a favorable progress and termination he believes will be made available for his patients. He is confident that his cases will prove, if need be, exceptions to general rules.

This is a rough outline of one extreme—an extreme of optimism. Practitioners who exemplify this extreme are liable to errors of prognosis. They lose patients when they had entertained and held out confident expectations of recovery. For this they may incur blame. But there is reason to believe that these expectations not infrequently contribute to recovery, and, as regards an influence on the issue of disease, they assuredly do not do harm to the patient.

A picture illustrative of the opposite extreme represents a practitioner who assumes the responsibility of a case always anticipating the worst that can befall the patient. His solemn manner and melancholy mien inspire nothing but forbodings. His attention is intent on the discovery of bad prognostics. He shakes his head distrustfully at symptoms which appear to be favorable. His words of encouragement, if he venture upon them, are so qualified by his apprehensions as to give rise to fear rather than to hope. This is an outline of a medical pessimist. The errors of prognosis into which practitioners of this stamp fall are the opposite of those of the optimist. Patients recover who have been condemned to die. These errors are less likely to occasion blame than those which involve fallacious expectations of recovery. But, it is to be added, a gloomy or fatal prognosis may contribute to its fulfilment.

It would require some presumption to draw a picture illustrative of a *juste milieu* between these extremes. The little space which remains on this occasion precludes the attempt were I disposed to make it. I will close with a few fundamental precepts pertaining to mental therapeutics, stated dogmatically and aphoristically, for the sake of brevity.

The practical object in mental therapeutics is to promote the favorable progress of diseases by means of influences exerted on the minds of patients.

The influences which may be exerted on the minds of patients are of sufficient importance to constitute a distinct branch of non-medicinal therapeutics.

Abnormal mental conditions, although the intellectual faculties may not be materially impaired, often lead to an exaggeration of symptoms, imaginary ailments, and undue apprehensions, which interfere with the favorable progress of diseases by affecting appetite and digestion, by preventing sleep, by discouraging coöperative efforts for restoration to health, and by a general depressing effect upon the functions of the body. The methods for the removal of these obstacles in the way of the favorable progress of diseases are within the province of mental therapeutics.

Confidence, hopefulness, and courage are conducive to the favorable progress of diseases. To endeavor to secure and maintain these is a duty incident to mental therapeutics.

Observation teaches that the strength of the mental faculties in health, and the extent of attainments in any branches of knowledge, are in no measure reliable criteria for judging of the mental condition of patients affected with disease. This assertion may be applied even to moral qualities and religious convictions. Disease is the great leveller, intellectually and morally, as well as physically. Men and women often become on the sick-bed, in a mental and moral point of view, children, and are to be managed as such. Shakespeare, as always, was true to nature when he compared to a sick girl the imperial Cæsar when suffering from a paroxysm of intermittent fever.

In contrast to the assertion just made, every physician of much experience has met with instances exemplifying the efficacy of determination and a strong will in resisting and overcoming disease. To recognize and endeavor to fulfil nature's indications, as regards the potential influence for good which the mind can exert over the body, is a duty incident to mental therapeutics.

Instances are not infrequent of the efficacy of an intense belief in the curative power of certain measures under circumstances which, to the superficial observer, appear to prove conclusively a special intervention of Providence. The so-called faith cures, and those which follow the laying on of hands, or other procedures in themselves inoperative, except through the mind, are full of significance as regards the potential agency of measures pertaining to mental therapeutics. The history of Perkinism, and the prevalence, now and heretofore, of other medical delusions, are most instructive, and have, perhaps, not been sufficiently considered with respect to the lessons to be drawn therefrom, and their practical applications to legitimate medicine.

The influence of mental activity, under an absorbing sense of duty, on the tolerance of diseases might be illustrated by many examples. Kane endured the hardships of an expedition toward the North Pole with a diseased heart. General Gordon, who at this time holds a prominent place in the thoughts of all Christendom, is a sufferer from angina pectoris. To quote his own words, "I may say that I have died suddenly over a hundred times." The London *Lancet*, referring to the subject, expresses the hope that he (General Gordon) may "long continue to show to the world what can be done by men with grave diseases, but with faith in their own mission and in God's providence." It is this faith which is a potential factor in the tolerance of disease. The other side of this picture shows that pitiful introspection exemplified in so many of our patients, and which is as potential for harm as the worthy aims which absorb the mental faculties are effective for good.

I do not doubt that many a life has been shortened by injudicious injunctions to rest from labors which, from their nature and long continuance, had become indispensable to health as well as happiness. The sanitary agency of work is too often overlooked. How wretched often is the remainder of life when, either for the delusive expectation of happiness or the equally delusive expectation of improved health and length of days, activity is exchanged for idleness. Insanity and suicide are not infrequent consequences. The introduction into medical nomenclature of the term nervous asthenia, for which I am responsible, and that of the congeneric terms neurasthenia and nervous prostration, subsequently introduced, I am bound to say, have done harm, although they express veritable pathological conditions. These terms have done harm by expressing a condition which is often imaginary, and by leading to the evils resulting from physical and mental inactivity.[1]

The physician who appreciates the importance of mental therapeutics, and of the duties incident thereto, will not fail to hold out to patients the encouraging features of a case. He will not give way to gratuitous forebodings. He will be circumspect in forming, and still more in announcing to his patients, an unfavorable prognosis. He will be slow to hazard a prediction as to the precise date that a disease will prove fatal, and still less will be guilty of the brutality of imitating a judicial sentence of death. He will keep out of the view of his patients discouraging possibilities, but not those which warrant hope. He will strive judiciously and skilfully to bring to bear all the potential mental agencies of which he may properly avail himself. He will throw on the scale of hopefulness all the weight to be derived from those doubts and difficulties which beset diagnosis and prognosis. He will make due allowances for the limitations of medical knowledge and his own deficiencies.

I have alluded to some of the precepts which underlie mental therapeutics. A consideration of the various modes of exerting influences on the minds of patients would embrace manifold details. Many questions arise in regard to the course to be pursued under the varied circumstances incident to disease and to the diversities of human character. Some of these questions involve points in casuistry. The subject in its practical aspect has a wide scope, and I commend it to some one who may aspire to be the author of a work on the non-medicinal treatment of diseases, according a proper relative space to the influences to be exerted on the minds of patients, or, in other words, to mental therapeutics. Such a work is a desideratum in medical literature.

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[1] The term "nervous asthenia" was introduced by me in the first edition of my treatise on the Principles and Practice of Medicine, published in 1866. Afterward the term neurasthenia was introduced by the late Dr. Beard. Nervous prostration is a popular term much used at the present time.

ORIGINAL ARTICLES.

CASE OF HYSTERICAL MONOCULAR BLINDNESS, WITH VIOLENT BLEPHAROSPASM AND MYDRIASIS—ALL RELIEVED BY MENTAL IMPRESSION.[1]

BY GEORGE C. HARLAN, M.D.,
SURGEON TO THE WILLS [OPHTHALMIC] HOSPITAL, PHILADELPHIA.

LIZZIE D., sixteen years of age, first came under observation September 24, 1883, at the Throat Department of the Philadelphia Polyclinic, under the charge of Dr. S. Solis-Cohen, when she applied for relief of distressing symptoms caused by the development of a fungus upon the tonsillar mucous membrane. Having been thus initiated into the charms of medical treatment, she was on the 26th, on account of the development of various nervous symptoms, referred to the Nervous Department, under Dr. Mills, who has furnished me with the following record of her case:

"Was taken sick last September with sore throat, and was confined to the house for about two weeks. She was very weak during this attack. Dr. S. Solis-Cohen attended her, and there was some doubt about the throat difficulty being diphtheria, but this throat trouble was followed by difficulty in swallowing and regurgitation of food through the nose. At the same time there was noticed a gradual weakness of sight in the right eye. After these troubles had somewhat lessened, huskiness of the voice came on, and was soon followed by a complete loss of the voice.

"Five or six weeks ago she had pleuro-pneumonia and during the attack her arms became partially paralyzed. She complains that there is a numbness down her legs and in her feet, and that she does not feel the ground under her when she walks.

"Her arms are now perfectly well, but her feet are in the same numb condition.

"Has a peculiar choreic twitching of the muscles of the face, more marked on right side.

"The patient states that at seven years of age she had fits, and that these fits continued about every four weeks until she was ten years of age. It is stated she frothed at the mouth, has never bitten her tongue, has never fallen or injured herself. Has never had the spell while alone; there was always some one with her when it happened.

"January 18, 1884, six days ago, began to have pain on left side of neck and two days later had complete spasmodic torticollis of left side, her head being bent over to the left shoulder.

"The torticollis was relieved by forcible pressure over the spinal accessory nerve."

She then came again under the care of Dr. Cohen, who reports as follows:

"March 25, I found L. at the Clinic, crying because one of the assistants in the Nervous Department had told her she would never be cured.

"I assured her that recovery was possible, and told her that if she would come to my office, I would try the effect of a very powerful magnet which I was convinced would succeed in calming the facial spasms.

"She came to the office, and I applied one pole of a Charcot magnet in front of the ear, at or about the emergence of the facial nerve, placing the other pole on any convenient spot. To my amazement, the spasms on the side of the face touched by the magnet were greatly lessened in frequency and extent. The other side was then operated upon in a similar manner. After a week's daily treatment the spasms ceased entirely, and did not return until a short time ago, when she became the subject of an acute conjunctivitis.

"Shortly after the cessation of the spasms, Lizzie came to me complaining of various aberrations of vision, and a fixed dilatation of the pupil. I asked Dr. Hansell, under whose care I had placed her when the first paralysis of accommodation had occurred, to allow me to try the effect of the magnet upon the eye"

When the patient was transferred to the Eye Department, October 25, 1883, the Chief of Clinic, Dr. Hansell, noted no other defect than a moderate degree of H.As., headache after use of eyes, and failure of accommodation. O.D. with +1.25 c ax. 90° $\frac{20}{\text{xx}}$ O.S. with 50 c ax. 90° $\frac{20}{\text{xxvi}}$. Pupils responsive and ophthalmoscopic appearances perfectly normal.

There was no material change until November 7, when homonymous diplopia of 2° appeared.

December 22.—Had been ill in bed for two or three weeks and discovered, on getting up, that the reading power of the right eye was lost. She could read with the right eye only No. 18 Snellen, and not nearer than 14 inches. The pupil was slightly dilated and reacted imperfectly to light. Field of vision normal. The left eye was normal, with full vision and ac=4″. There was distressing blepharospasm on the right side, and slight twitching on the left.

January 14.—Accommodation was entirely suspended in the right eye, vision = only $\frac{15}{\text{cc}}$, pupil dilated and concentric limitation of field. Blepharospasm increased. Left eye still normal.

On March 17 a central scotoma in the right eye was noted.

After this her symptoms continued, with more or less variation, until the right eye became entirely blind, except to light, the pupil was widely dilated and fixed, and the muscular spasms became more violent and extended to the face and neck.

On entering the room at the dispensary one day early in May, I was surprised to find L. sitting there with the muscles of her face completely calm, and still more surprised to be told that Dr. Cohen had brought about this result by the use of a magnet. Also that the pupil was contracted after the application and vision sometimes temporarily and partially restored. This at once aroused strong suspicion of simulation, though the prism test had been carefully applied with negative result. I had her sent to my office for further examination, and on May 7, applied the simple test described at the meeting of this Society in 1882. This, it may be remembered, consists in placing a pair of convex glasses before the eyes; a weak one in front of the blind eye, and one too strong to read through in front of the sound eye. She insisted positively that the right eye could see only diffused light, and could not discern the largest and most familiar objects. The pupil of that eye was widely dilated and rigid. With a +3 D. glass before the right eye and a +18 D. before the left, she read No. 4 Snellen without hesitation at about 11 inches, of course with the right eye. For fear of exciting her suspicion, no attempt to test the accommodation was made at that time.

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[1] Read before the American Ophthalmological Society.

On May 22, the examination was repeated. She again insisted that with the right eye she could distinguish only light, which she said was of a dazzling character. Pupil widely dilated and fixed. With +3 D. before the right eye and +18 D. before the left she read No. 2½ Snellen. On attempting to test her accommodation, she denied being able to read when the print was brought nearer than 14 inches, which is about what would be expected from the state of her refraction, supposing the accommodation to be entirely suppressed.

May 24.—I was present when the Charcot magnet was applied by Dr. J. Solis-Cohen. A slight blepharospasm, which existed before the application, was relieved, but there was no effect upon the pupil or upon the vision. The next day, however, the pupil, though not normal, was decidedly smaller than before, and, with the correction of her astigmatism, she admitted a vision of $\frac{20}{\text{LXXX}}$. With right eye + 3 D., and left + 18 D., she again read 2½ S.; but not closer than 13 inches.

28th.—The magnet was again applied by Dr. Cohen at 4.30 in the afternoon, and the patient was sent directly to my office. No effect on the pupil was noticeable at first, but an hour afterwards it was slightly, though decidedly, less dilated. The next day, however, it was very much less dilated, though still larger than the left, and responded to light. With the astigmatism corrected (+1.25 ax 90°) she admitted a vision of $\frac{20}{\text{XL}}$. The left eye, without glass vision $= \frac{20}{\text{XXX}}$. With +3 D. and +18 D. as before, she read 2½ S., but not nearer than 12 inches.

June 19.—Had a severe attack of conjunctivitis in the left eye, and stated that she could not then read ordinary print with that eye and could see only diffused light with the right. Left pupil normal, right widely dilated and rigid. With O.D. +3 D. and O.S. +18 D. read No. 14 S. with difficulty, but best at about 14 inches.

I now determined to try the effect of unmagnetized iron having the same form and appearance as the magnet, but at the suggestion of Dr. Cohen, had the false magnet made of wood with iron tips to give the metallic impression upon the skin.

Messrs. Queen & Co. made for me a very perfect imitation, and it was placed in the same drawer in Dr. Cohen's office where the original was always kept.

July 1st at noon, the left pupil was of normal size and freely responsive. The right pupil was widely dilated, almost ad maximum, and perfectly rigid when exposed to bright light. There was slight blepharospasm and some twitching of the muscles of the face on the right side. The patient was sent to Dr. Cohen at four o'clock in the afternoon, and he noted the same condition as at noon.

He applied the imitation magnet and sent the patient directly to my office. When she left him, the face was calm, but the pupil still dilated. I examined her at once and found the muscles of the face quite normal, and the right pupil of the same size as the other and freely responsive to light. The only difference between the action of the Charcot magnet and of the Cohen-Harlan magnet was that the latter was more prompt and complete in its effects, probably on account of a little more parade in its application.

Some additional notes by Dr. Cohen show that the uses of the wooden magnet are not confined to ophthalmology, but that it has a place in general surgery.

"During June, L. fell and said she dislocated her elbow-joint. She was treated for dislocation by a practitioner called in the emergency.

"July 1st, this gentleman having discharged her with a stiff arm flexed at the elbow, which he said he was unable to straighten, I examined it, found no dislocation and straightened it by simple extension. A hypersensitive point was discovered by pressure in the ulnar notch.

"I asked her to report at the Surgical Department of the Polyclinic for examination of her arm, in order to secure a verification of my opinion that there was not and had never been a dislocation. July 3d, she called on Dr. Steinbach with her forearm again rigidly flexed upon the arm. Dr. Steinbach, unaware of her history, yet recognized the nature of her trouble, and finding himself unable to overcome the spasm of the biceps and which he describes as extreme, the tendons standing out like whip-cords, proposed to give her ether. She declined to take the anæsthetic and came to my brother's (Dr. J. Solis-Cohen) office during my absence. He applied the wooden magnet to the biceps, and the spasm relaxed at once."

HYDROCHLORATE OF COCAINE IN LARYNGEAL PHTHISIS.

BY GEORGE M. LEFFERTS, A.M., M.D.,

PROFESSOR OF LARYNGOSCOPY AND DISEASES OF THE THROAT IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

All who have had any experience in battling with that most dread symptom of advanced laryngeal phthisis—the terrible dysphagia—will welcome any means which promises to overcome it, and give even temporary relief to the patient. Such a means I believe we have in the much-lauded cocaine, and I desire to place the results of my experience upon record, both for the sake of the sufferers and in order that the profession may be made aware of the possibilities which are at their command.

It is unnecessary in this short notice to detail my trials of the remedy. In a large series of cases the results have always been the same. One case, as an illustration, will answer my purpose. In a patient, the victim of advanced pulmonary and laryngeal phthisis, demonstrated to my class at the College of Physicians and Surgeons on Tuesday last, one in whom the act of deglutition had been an absolute impossibility for one week on account of the acute pain that it caused, together with the immediate reflex spasm and rejection of the smallest amount of fluid nourishment on any attempt at swallowing, so that the patient was slowly perishing, in reality, more from hunger and thirst than from his disease, one application of the cocaine so anæsthetized the acute sensibility that a full glass of milk was immediately drank before the class with ease and entire comfort. Each subsequent application in his case, as well as in many others equally well marked, has produced the same result, and, I may add, has notably relieved the element of dyspnœa, dependent upon the engorgement and swelling of the tissues, with consequent laryngeal stenosis, probably by producing temporary tetanic muscular contraction, in the fibres in contact with or surrounding the dilated bloodvessels.

One such example alone, however, is calculated to excite our warmest enthusiasm for a remedy which is capable of alleviating such a grade of human misery.

The application of the cocaine (a four per cent. solution) was preceded in each case by a thorough cleansing of the mucous surfaces and all ulcerated points of the larynx from thick, tenacious mucopurulent discharges by the spray-application of an alkaline solution (Dobell); the parts were then immediately bathed gently, yet thoroughly, by means of a large laryngeal brush fully charged with the cocaine solution. One such application answers the desired purpose.

November 20, 1884.

A CASE OF PROCIDENTIA UTERI TREATED BY SHORTENING THE ROUND LIGAMENTS, COMBINED WITH KOLPO-PERINEORRHAPHY.[1]

By RANDOLPH WINSLOW, M.A., M.D.,
DEMONSTRATOR OF ANATOMY IN THE UNIVERSITY OF MARYLAND, PROFESSOR OF SURGERY IN THE WOMAN'S MEDICAL COLLEGE OF BALTIMORE.

Upon assuming control of the surgical service at Bay View Asylum, in the department of the University of Maryland, my attention was called to a simple-minded woman, who was the subject of prolapse of the uterus; the nurse volunteering the statement that no means had been found of retaining the organ within the vagina. Pessaries were of no avail, as she invariably removed them in a short time.

The patient is married, and is the mother of one child. She is about forty years of age, and still menstruates. She is quite active, and is fond of helping in the work of the institution, and has done considerable heavy carrying. Her present trouble has been in existence about six months, and is attended by the usual symptoms of disability, with dragging sensations. Some time subsequently, Dr. Jones, the resident physician, discovered that a severe prolapse of the rectum had occurred, with such strangulation of the bowel that he feared gangrene was about to set in. The patient having been brought into the operating room and placed upon the table, a procidentia of all the coats of the rectum was found, the prolapsed mass being nearly as large as the procident uterus, and much resembling it. Under an anæsthetic, the protrusion was reduced without difficulty, and the patient placed in bed, the rectum being tamponed daily with cotton saturated with glycerine and tannic acid. This cured the prolapse of the rectum; at least it did not return during the next two months, at the expiration of which time my service ceased.

Dr. Jones having tried various methods of retaining the uterus without success, it was determined to attempt a radical cure by an operation. Whilst debating upon the best method of accomplishing this, a short notice of a paper upon shortening the round ligaments attracted my attention. Without being conversant with the details of the operation as performed by the originator of the method, I decided to attempt the shortening of the ligaments in this case. On September 11, 1884, she was placed under chloroform. At this time the os protruded from the vulva, and was everted, eroded, and very red; the uterine cavity was 4½ inches in length, and the vaginal walls as dry and hard as skin.

The protruded parts were returned, leaving the vaginal orifice widely dilated. The perineum was also partially lacerated. The vulva, pubes, and lower portion of the abdomen were irrigated with bichloride solution, 1 to 1000, and the pubic hair cut off. An incision, two inches in length, was made over the external abdominal ring on each side, the openings exposed, and the extremity of the ligaments seized with forceps and drawn upon with considerable force, until the fibrous cord was shortened on one side about an inch, on the other somewhat more. It was rather difficult to recognize that portion of the ligament which passed from the external ring to the vulva, as it was very small, was reddish in color, and had lost all of the white fibrous appearance which is characteristic of it elsewhere, and but for an accurate anatomical knowledge of the region, it might not have been found. After it has been pulled out somewhat, its whiteness and fibrous appearance render a mistake impossible. The ligaments having been drawn out as far as was felt to be safe,—that is, until strong resistance was experienced,—they were stitched into the rings; on one side the ligament was twisted up so as to form a ball, and this was united to the margins of the ring by several points of suture; on the other side the ligament was not rolled up, but was stitched into the ring with about six sutures, the rings on both sides being narrowed at the same time. Sublimated silk was employed for the sutures, and the ends were cut close to the knots. The incisions were closed by sutures, and dressed with iodoform and absorbent cotton, union being rapidly obtained. The after-treatment consisted in plugging the vagina daily with cotton saturated with glycerole of tannin. The temperature scarcely rose above the health rate, and no symptoms of peritonitis appeared.

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[1] Read before the Clinical Society of Maryland, October 17, 1884.

Although the uterus seemed to be permanently fixed in its new position, it was not deemed proper to trust to the tension of the ligaments, whilst the orifice of the vagina was dilated and the perineum torn, hence it was decided to narrow the vagina by excising a triangular strip from its posterior wall, and to restore the perineum to its full height. This was done on September 18, one week after the previous operation, the abdominal incisions being nearly healed, the uterus high up within the vagina, and the redness and erosion of the os and cervix much improved. After disinfection of the vulva and vagina with sublimate solution, 1 to 1000, a wedge-shape piece, with its apex far up the canal, and its base at the perineum, was marked off with a scalpel and dissected up with scissors, being about 1½ inches in width at its base. The labia and commissure were also freely denuded, almost up to the meatus urinarius. When oozing had ceased, the vaginal strip was united with numerous points of suture, and very deep sutures of strong sublimated silk were used for closing the perineum. After irrigating the vagina and painting the line of perineal incision with iodoform collodion, the patient was put to bed. No reaction followed the operation, and in spite of the fact that the patient was unruly, and upon several occasions got out of bed, the union was so close that it was scarcely possible to tell the slight scar from the normal raphe. During the time in which the patient remained in bed, warm vaginal injections were used daily, for the purpose of cleanliness and in order to reduce the congestion of the uterus. The perineal sutures were removed in a week, but those in the vagina were allowed to remain, and have never been removed. She was kept in bed until October 6th, after which time she resumed her accustomed mode of life.

For the past year, I have employed aseptic silk (carbolized or sublimated) almost exclusively for sutures, where previously I had used silver wire, and I cannot recommend it too highly in perineal operations; not only is it much easier to introduce and to secure than wire, but the increased comfort to the patient is best appreciated by those who have been subjected to the use of both articles. I think a decided advantage may also be gained by painting the line of incision with iodoform collodion, especially when the operation is upon the lip, face, or near the outlets of the body where it is impossible to employ a proper antiseptic dressing.

I am free to acknowledge an oversight made during the operation for shortening the round ligaments, and one which may materially influence the result of the procedure, namely, the neglect to empty the bladder previous to shortening the cords. Subsequent catheterization showed the bladder to have contained more urine than was expected, and it is probable that a further shortening of the ligaments was interfered with.

By a reference to the original article of Dr. Alexander, the inventor of this operation, published in the *Medical Times and Gazette*, April 1, 1882, I learn that he considers the normal uterus to be prevented from being displaced by the resiliency of the surrounding tissues more than by the direct support of its ligaments; hence he infers that anything which will fix the uterus in its normal position will prevent prolapse by allowing the abdominal and pelvic organs and tissues to act efficiently in affording this elastic buttress. The object of the operation, therefore, is not so much to suspend the uterus by the shortened round ligaments as to fix it as nearly as possible in its normal position, and allow the intestines to hold it there by their pressure. He shortens, or "pulls out the slack" of the ligaments about two inches on each side.

I am aware that it is too soon to claim a permanent cure in the above case, but I thought the subject of sufficient interest to bring to the notice of this Society.

MEDICAL PROGRESS.

Cocaine as an Anæsthetic in Ophthalmic Practice.—Dr. Karl Koller read a paper on this subject before the K. K. Gesellschaft der Aerzte, in Wien, on October 11th. He had already read a paper on, and made some experiments with, cocaine, at the meeting of the German Ophthalmological Society in Heidelberg, in September. It is known that the application of cocaine to the mucous membrane of the tongue causes anæsthesia of that organ, and Koller has now shown, by a series of experiments on animals, that the cornea and conjunctiva are also anæsthetized. The experiments with it in the human eye gave the following results:

1. Within from one to two minutes after the instillation of a few drops of a two per cent. solution of cocaine, the cornea and conjunctiva became anæsthetized. There was complete anæsthesia, lasting from seven to ten minutes, after which the normal sensibility was regained.

2. Within fifteen to twenty minutes after the instillation mydriasis set in, never maximal, which reached its limit in an hour, began to disappear in about two hours, and in a few hours entirely disappeared. During the mydriasis the pupil always reacts promptly to light, and with it comes and goes an inconsiderable paresis of accommodation.

3. The palpebral conjunctiva becomes anæmic.

4. When the instillation was repeated every five minutes for from one-half to one hour the action of the drug on the deeper parts of the eye was seen; painful sensations from stron gpressure on the ball were sensibly diminished.

5. Cocaine never causes phenomena of irritation.

Therapeutic experiments with cocaine were made in Prof. Von Reuss's Clinic, and it was seen: *a*. That it may be used as a narcotic in painful and photophobic affections of the cornea and conjunctiva, the action being limited to a few hours. It is also of service in cases in which it is necessary to touch the conjunctiva with nitrate of silver. Koller recommends its use in iritis.

b. That it may be used as an anæsthetic in operations on the eyes. In this capacity it was used with good results in operations for the removal of foreign bodies from the eye, in tattooing the cornea, and in operations for pterygium. Koller also recommended that it be tried in cases in which it is necessary to cauterize ulcers of the cornea with the hot iron, in puncture of the cornea and discission of cataract, in operations for stàphyloma, and in iridectomies and linear extraction of cataracts; for these purposes a five per cent. solution should be used every five minutes for half an hour before the operation.—*Wiener med. Presse*, October 26, 1884.

REMOVAL OF UTERUS; DOUBLE OVARIOTOMY.—DR. W. H. GOODE, of Sydney, Australia, reports the case of a woman, æt. 60 years, who was suffering from an ovarian tumor. She stated that menstruation had been irregular for several years, coming on once a fortnight very profusely, and that it ceased altogether six years ago, when she began to feel a small swelling in the right iliac region, which did not increase much in size for five years; it had rapidly enlarged during the past year.

She was placed under the influence of methylene bichloride, and an incision, under five inches in length, was made in the abdominal wall. A large unilocular cyst of the right ovary was found closely attached to the uterus, there being otherwise no adhesions. The cyst contained thirteen pints of thin greenish fluid, of specific gravity 1038. The left ovary was also found to be diseased, being about the size of a large walnut. When the uterus was seen to be so closely connected with the larger cyst, and considering the age of the woman, Dr. Goode determined to remove the uterus with the ovaries, as, by so doing, the peritoneum would be less disturbed, and the chances of the woman's recovery possibly increased. He accordingly passed, with an aneurism-needle, a double ligature of strong cable-laid carbolized silk, one-half of which was tied round the lower part of the cervix uteri, and the other half included the remaining attachments. The cervix was then cut through, the other ovary removed, and the pedicle returned. A glass drainage-tube was inserted, and the wound closed. The evening following the operation there was some slight vomiting, the pulse was 88, and the temperature rose to 101.4°, which was the highest reading of the thermometer during the progress of the case.

On the thirteenth day after the operation, the opening where the drainage-tube had been was closed, and the wound completely healed. She was allowed to get up and lie on a couch. She continued to sleep and eat well, and steadily improved in health until she left the hospital, feeling perfectly well.

The chief point of interest about the case is the fact that the pedicle, which consisted of the lower third of the cervix uteri, was secured with a simple silk ligature, and returned into the abdominal cavity with the mucous membrane of the cervical canal entire.—*British Med. Journ.*, Nov. 1, 1884.

EXCISION OF THE CÆCUM.—MR. WALTER WHITEHEAD recently excised, at the Manchester Royal Infirmary, the cæcum and the ascending colon of a man suffering from a carcinomatous growth encircling a large extent of the bowel. After the excision, the ileum was attached to the skin below, and the commencement of the transverse colon to the skin above, in the primary incision made through the abdominal wall just outside the rectus. The superior mesenteric vein was wounded during the removal of an infiltrated mesenteric gland, and had to be ligatured. The operation, which was conducted on Listerian principles, occupied nearly two hours, and was found to be more tedious than difficult. We learn that, four days after the operation, the patient was free from a single untoward symptom, and promises to make a complete recovery, the temperature never once having exceeded normal limits. —*British Med. Journal*, Nov. 8, 1884.

RAPID DILATATION OF FEMALE URETHRA IN CYSTITIS.—PROF. A. R. DAVIDSON, of Buffalo, reports the case of a woman, æt. 60 years, whose urine was found to be highly ammoniacal, and to contain much blood and pus intermingled with numerous crystals of triple phosphates. The microscope showed, also, soft flocculent masses made up of spindle-shaped cells with very distinct nuclei. Every day the patient passed, per urethra, considerable masses of triple phosphates, very rough and having many branched projections. The quantity of pus, blood, and débris from the bladder made it impossible to distinguish kidney epithelium or casts with certainty. The considerable albumen present might be accounted for by the quantity of pus and blood. At the first examination, the extreme sensitiveness of the bladder made a careful sounding impossible, but it was easy to find many small calculi, such as she was daily voiding. A decided thickening and rigidity of the base of the bladder could be felt by vaginal examination.

Having placed her under the influence of ether, the sound and vaginal examination of the walls of the bladder quickly demonstrated the absence of any large stone. He therefore proceeded to dilate the urethra, using the little finger first, and following it with the index finger. The base of the bladder was then found to be coated with a phosphatic concretion deposited upon small, reddish, flesh-like masses, which were easily scraped off with the finger-nail. The bleeding was not great, as the growth seemed to be confined to the mucous membrane; he has little doubt that it was an innocent villous growth. As Ultzman points out, these do not give rise to a thickening of the coats of the bladder; that is, there is no infiltration of the tissues. Villous cancers, on the other hand, give rise to tumors of the bladder or to thickening, which may be felt through the rectum or the abdominal walls. The patient made a rapid recovery. She complained of some soreness during micturition, and blood and pus were present in the urine for a few days, but the severe pain and frequency of micturition were absent from the moment of the operation. Subsequent treatment consisted of milk diet, regulation of the bowels, iron internally, and, for a week, daily washing out of the bladder. At that time all blood and pus had ceased; the urine was clear and normal in its reaction, and, up to the present time (six weeks after the operation), she is free from all untoward symptoms.—*Buffalo Med. and Surg. Journ.*, October, 1884.

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SATURDAY, NOVEMBER 29, 1884.

KOCH'S LATEST RESEARCHES ON CHOLERA.

KOCH has two great qualities as an investigator—unequalled *technique*, and powers of patient observation. His experience has been vast, and each piece of work which he has done has been remarkable in leaving but little to correct, either by himself or by subsequent observers. No writer on mycology is more reliable; not one has proved himself worthier of professional confidence.

Doubts have arisen in the minds of many, concerning the cholera bacillus, on account of the observations of Lewis, and of Finkler and Prior; and upon these we are glad to have Koch's criticisms, which have just appeared in the *Deutsche medicinische Wochenschrift*.

Lewis (*Lancet*, September 20, 1884) states that a bacillus resembling that of cholera can be found in the mouth, but Koch shows, in a very few words, that this form has been known for some years, that it differs from the comma form of cholera in being longer, more slender, and not so blunt at the ends; and it further differs in this all-important particular, that it will not develop in the weak alkaline pepton-gelatine, in which alone the cholera bacillus can be cultivated.

His criticisms on the work of Finkler and Prior, on cholera nostras, show how necessary it is for men to have a proper preliminary training before undertaking such investigations. From their own statements he easily proves that they could not possibly have obtained pure cultivations. They appear, also, to have been so far astray as to mistake the part of the bacillus which all observers regard as the spores. After considerable difficulty Koch obtained some of their culture material, and found in it four different microbes, of which one resembled slightly the comma-bacillus, but is larger and plumper, and in its mode of growth quite different, growing much more rapidly in gelatine or on potato, and showing unmistakable differences in the form assumed in the cultures. It is a totally distinct microörganism, and very probably has no special connection with cholera nostras. The culture which Finkler and Prior made was from stools which were not quite fresh, but they had preparations from fresh stools which were believed to show the comma-bacillus, but those which Koch examined contained only the ordinary intestinal forms.

Three cases of undoubted cholera nostras have since been examined by Koch, and neither in the stools nor in the intestines could comma bacilli be found, nor did they develop in cultivations.

He remarks, in conclusion, that the experiments of Rietsch and Nicati, on the production of cholera in animals, have been successfully repeated in the Berlin Hygienic Laboratory. The material of a pure cultivation was so far diluted that the quantity injected did not contain more than the hundredth part of a drop. When placed in the duodenum the animals died in from one and a half to three days. The mucosa of the small intestine was reddened, the contents watery, and the comma-bacilli were found in extraordinary numbers. The condition was similar to that of the intestines of a recent human case. The exceedingly small amount injected precludes the possibility of an intoxication produced by the action of any poisonous product.

These latest observations of Koch afford additional strong confirmatory evidence of the correctness of his views concerning the etiology of cholera and its connection with the comma-bacillus.

COW'S MILK AS A VEHICLE OF DISEASE.

THE possibility of the transmission of infectious and epidemic diseases through the agency of cow's milk has become a well-recognized fact. Since Dr. Ballard published his report of an epidemic of typhoid fever at Islington, in 1870, attention has been directed to this source of dissemination of disease, and the result has been a record of at least one hundred epidemics alleged, upon reliable grounds, to have been traceable to milk which had in some way or another become specifically contaminated.

It seems to be an established fact that scarlet fever has been communicated in this manner, and there is reason for supposing that diphtheria has also been thus disseminated, although the evidence on this latter point is not so thoroughly conclusive. Other infectious diseases are believed to have been occasionally propagated through milk, but more proof is needed to reduce the opinion to one of scientific accuracy. However, as we are in possession of certain well-known facts in regard to this mode of disseminating typhoid fever and scarlet fever, and knowing what we do of the nature of infectious diseases, and with our knowledge of the property in milk of readily absorbing volatile matters in the atmosphere, and of the circumstances attending the collection, treatment, and handling of milk before it reaches the consumer, it is not hazardous to venture the opinion that all infections may be transmitted by milk, and that this possible source of danger to health should be guarded against accordingly.

It is known that milk containing a fungus—the *Oïdium Lactis*, or *Penicillium*—may give rise to irritation of the stomach, or even gastritis. Milk from an inflamed udder will cause inflammation of the mucous membrane of the mouth and aphthæ on the lips and gums. The so-called milk sickness, at one time prevalent in the Western States, is supposed to have been caused by the milk of cows which fed on the *Rhus Toxicodendron.*

Very positive evidence has been adduced to show that the milk of cows affected with the foot and mouth disease will give rise to a somewhat similar affection in the human subject. It is not so clear how milk becomes the means of conveying the poison of enteric fever, scarlet fever, and possibly some other infectious diseases. In the case of typhoid fever communicated in this way, the majority of epidemics have been regarded as due to specifically contaminated water which had been added to the milk. In other instances of typhoid fever, and in the case of scarlet fever, and perhaps diphtheria, a common explanation is that the infectious material has been absorbed by the milk. It has also been suggested that the milk thus infected may act, while warm, as a cultivation-fluid for the zymotic germs. Other explanations have been proposed, but they do not materially modify the general precautions which, in the present state of our knowledge, are deemed most efficacious in preventing this mode of transmission of disease.

Dr. Thursfield, an English medical officer of health, who has investigated the subject of milk epidemics very carefully, proposes certain precautions which he considers effectual in preventing these outbreaks of disease. The responsibility is divided between the consumer and the sanitary authorities. He urges upon the consumer the precaution of boiling all milk. There is a prejudice against this practice, but it ought to give way if it be true that "to boil milk may, for practical purposes, be said to confer immunity from infection conveyed by it."

The milk-shop of the retailer and the dairy of the wholesale purveyor should be placed under the strict control of the sanitary authorities, which should be clothed with power to make proper regulations and to enforce them by the aid of efficient inspection. The organization of such a service would at first be arduous, but so soon as its requirements are made known and intelligently comprehended, a willing co-operation might be expected in most cases. There is a prevailing ignorance of the facts above stated, which is damaging to the best interests of the public health and ought to be removed. In no way can this be better accomplished than by the organization of an authoritative service regulating the purveying and sale of this important article of food.

AN UNCOMMON FORM OF VAGINISMUS.

THE word *cunnus*, signifying the female pudendum, was said to have been used by "the more lascivious poets," and was condemned by Cicero, in one of his orations, as an obscene word. Though Horace does not deserve to be placed in this class, yet he made use of the word: *Fuit ante Helenam cunnus teterrima belli causa.* Nevertheless, it has a classic derivation, probably coming from κυειν—to be pregnant—and for many years had a place in anatomy; indeed, up to the present some writers speak of the constrictor cunni muscle, but most now designate the muscular structure which contracts the vaginal entrance as the bulbo-cavernosi muscles; these are the vaginal sphincter.

The late DR. SIMS, in a paper communicated to the London Obstetrical Society by Dr. Tyler Smith in 1861, stated that, by the term vaginismus, he proposed to designate "an involuntary, spasmodic closure of the mouth of the vagina, attended by such excessive supersensitiveness as to form a complete barrier to coition." Dr. Sims did not describe a new disease—indeed, he disclaimed any such attempt. Dr. Louis Debrand, who has recently published an important monograph, *Des Rétrécissements du Conduit Vulvo-Vaginal,* states that Huguier, in 1834, was the first to describe spasmodic contraction of the vaginal sphincter. Nevertheless, though Dr. Sims only recalled attention to a disorder which others had observed, he gave it a name so suitable that it at once received general acceptance, and is sure to keep its place in medical nomenclature.

But while the name was received with such favor, its definition as given by Dr. Sims was soon found to be too narrow. For example, in a case of vaginismus recently under our observation (the subject had been married several months, and coition had been impossible) there was very great suffering, especially marked at the monthly periods, in the anal sphincter, violent cramp of this muscle, accompanied with painful and difficult defecation, although there was no local disease to be discovered here, and the affection was cured by the treatment of the vaginismus, using this word as previously defined.

HILDEBRANDT, who has written, in Billroth's *Handbuch der Frauenkrankheiten*, probably the best article upon vaginismus to be found, remarks: "Most frequently the constrictor cunni is the seat of this cramp. From the anatomical position of this muscle the necessarily following results are the impossibility of coitus, the application of a speculum, even the introduction of the exploring finger." He then adds that, in the further progress of the disease, there occurs cramp of the anal sphincter, in which the patient has a sensation of swelling, rigid enlargement, tension, spasmodic jerking, and difficult and painful defecation. He describes this spasm as extending to other muscles, or to groups of muscles, forming the pelvic floor; in rare cases all the muscles are affected. He states that cramp of the levator ani may cause contraction of the upper part of the vagina, so that a speculum, or a swollen glans penis, as in coition, may be forcibly retained.

The form of vaginismus last mentioned has recently been considered again by HENRICHSEN in the *Archiv für Gynäkologie*. The author refers to the observations of Scanzoni, and those of Hildebrandt, in which the penis was retained captive by woman's genital organs, after coitus, by a phenomenon analogous to that observed in certain animals, especially the dog. He states that, while Scanzoni thought this phenomenon due to the constrictor of the vagina, Hildebrandt attributes it to the levator ani, for the constrictor of the vagina would oppose the intromission of the penis, and it is not at all probable that spasm of the latter muscle could retain the member already introduced, especially a part of it which is smaller than the glans.

Debrand, *op. cit.*, quotes from Révillout a case in which the contraction was about two inches from the vaginal entrance, and a little below the neck of the uterus and the vaginal cul-de-sacs; there seemed to be two muscular bands at this point, one on each side, which contracting, narrowed the canal; the contraction was voluntary.

It is somewhat remarkable that in the recent study of vaginismus affecting the canal in its middle or upper portion, spasmodic elytrostenia, as it is called by Debrand, no reference is made to the facts that it was observed many years ago, and that the very comparison as to the captive human penis now made was then used. Schurigius, in 1729, wrote *De cohæsione in coitu*, and referred to it as analogous to the retention of the penis noticed in animals; he quotes Lannius as stating it to be a spasmodic affection of the female genitals. Riolanus describes it as a grasping of the penis by the mouth of the womb open after menstruation, "and retaining it, as is done in dogs." Diemerbroc, in 1687, also mentioned the disease.

It is well for us to be grateful for all additions to medical knowledge, but it is also well for us not to neglect the observations of past ages, and to remember that rediscoveries are probably more frequent than discoveries.

DR. FLINT'S ADDRESS.

DR. FLINT'S able address before the New York State Medical Association is a most timely contribution to questions in which both the profession and the laity have always had a deep interest. Of special importance just now are his remarks on medical therapeutics, when a tendency can be observed toward an extreme reaction from the Nihilistic doctrines. The admirable precepts of Bigelow, Forbes, and Holmes are not so potent with the rising generation of physicians; and under the seductive influence of the samples, pamphlets, and special journals of our great drug houses, there is danger of a return to the unnecessary and indiscriminate use of medicine which characterized the practice of thirty or forty years ago.

On several occasions, Dr. Flint has used his prominent position and authority to urge that "a knowledge of the natural history of diseases is the true point of departure for therapeutics," and here again he pleads for a recognition of the self-limitation of many diseases, of their intrinsic tendency to recovery, and of the position of the physician "as nature's servant, not her master." The difficulty is chiefly, as he says, with the public, who expect to be drugged, and are dissatisfied if a consultation does not result in additional medicine, or, at any rate, a change. But desired reformation will not come until greater unanimity prevails in the profession, and until the laws of natural—as opposed to applied—therapeutics are more fully understood. Gubler's aphorism, "*L'organisme se quérit lui-même*," might serve as a text for many valuable lectures.

Dr. Flint draws a very truthful picture of the pharmacomaniacal practitioner, who still is active among us, not in the old form of thirty years ago, with bulky powders and sixteen ounce mixtures, but with pleasing pellets, sweetly coated pills, bland wafers, delicious fluid extracts, and soothing tablets.

The remarks on the principles of dietetic therapeutics deal with two important problems—judicious feeding in fever and chronic ailments, and the advisability of allowing the promptings of nature to be more fully followed than is at present the case. Not every one will agree with the author when he says that it is better to overfeed than underfeed, for the dangers of the former plan are often obvious in disturbance of an already enfeebled digestion; and many will think, while acknowledging the need of reform in dietetic regulations, that he scarcely gives sufficient warning of the errors which may arise in allowing patients to follow blindly the indications of nature.

The vigorous exposure of popular and professional prejudice in the matter of catching cold should bring better ventilation to many sick-rooms, and greater personal comfort to many sufferers; and unless some other kind of adjuration is needed, the demon Dr. Flint refers to will certainly be exorcised from the minds of the readers of this address, and through them, it is to be hoped, from an ever-widening circle of the public.

The concluding paragraphs on mental therapeutics should stimulate the study of this most important branch of the healing art, at present very largely, and profitably, in the hands of extra-professional practitioners.

OLD RAGS vs. CHOLERA.

THE recent order of the Secretary of the Treasury prohibiting the unloading of old rags shipped from foreign countries known to be infected with contagious or epidemic diseases, has given rise to no little controversy between sanitarians and dealers in old rags. To the average mind the question of importing the cast-off rags of any country at any time, appears preposterous, but when it comes to permitting their entry at a time when this country is free from pestilence, and especially old rags collected in regions known to be infected with cholera, language fails to express the astonishment which such a proposition carries with it. What makes it even more surprising is found in the argument advanced by the old-rag dealers that the wearing apparel, luggage, etc., of immigrants is the source of danger, and not the old rags cast off from those who were sick or died of the disease. In other words, that the healthy immigrant is more to be feared as a carrier of infection than old rags collected and baled in the very centre of a cholera-stricken country.

While it is well enough to quarantine and carefully inspect all persons and their baggage coming from an infected port, it is equally necessary to quarantine and keep out of the country all old rags coming from such ports.

The order of the Secretary makes an exception in favor of rag dealers which should well satisfy them, but which sanitarians may hardly think prudent. It is: "No old rags shall be landed at any port in the United States except on a certificate of the United States consular officer at the port of departure, that such rags were not gathered or baled at, or shipped from, any infected place, or region contiguous thereto." The question might be raised, How is the consul to know absolutely where the rags were gathered? He might innocently certify to all that is required and yet send infected rags into the United States. The sure means of keeping cholera out of the country would be non-intercourse with all foreign ports, but as this is impracticable, our best efforts should be directed towards reducing the chances of infection to a minimum—this can be done by rigid inspections on the one hand, and local sanitation on the other.

While it may be a commercial hardship to dealers in old rags to exclude this undesirable commodity from our markets, it is a personal hardship to passengers who have to undergo quarantine restrictions because they come from an infected district. It would be considered criminal to permit a ship to enter her dock in New York direct from an infected port; would it be any the less criminal to permit the entrance of old rags gathered and shipped from the ports of Hindoostan where cholera prevails all the year round, or from Mediterranean or French ports where it has held high carnival during the past six months? No one can say that old rags, gathered as we all know from what sources, are *all* infected, but the presumption is that some are, and as "a little leaven leaveneth the whole lump" so it is that a cargo of rags infected in part is practically wholly infected.

ON another page, our Paris correspondent gives us important information concerning the reported successful cultivation and vaccination of the virus of yellow fever. While the details of the results obtained, which are taken from the reports contained in the Paris daily papers, are entitled to be received with the same reserve with which we usually accept the statements contained in lay newspapers concerning scientific discoveries, still they probably have for their foundation a basis of truth which, no doubt, was correctly reported by M. Bouley to the Académie des Sciences on November 10th. If these results of the researches of M. Freire on the attenuation and vaccination of yellow fever and on the immunity against the disease thereby conferred are confirmed, they constitute one of the greatest discoveries of the century and will take rank equal in importance with the discovery of the immortal Jenner.

SOCIETY PROCEEDINGS.

NEW YORK STATE MEDICAL ASSOCIATION.

First Annual Meeting, held at the Murray Hill Hotel, New York, November, 18, 19, 20, 1884.

(Specially reported for THE MEDICAL NEWS.)

THE PRESIDENT, HENRY D. DIDAMA, M.D., IN THE CHAIR.

TUESDAY, NOVEMBER 18TH—FIRST DAY.

EVENING SESSION.

(Concluded from page 584.)

Two papers by Dr. William Wotkyns Seymour, of Rensselaer County, one on *A Case of Nephro-lithotomy* *for Calculous Pyelitis*, and the other on *A Case of Excision of the Rectum for Cancer*, were read by title.

DR. V. C. LYNDE, of Erie County, read a paper on

DOUBLE SYNCHRONOUS AMPUTATIONS.

With a view of obtaining reliable statistics on the subject, he had addressed inquiries to surgeons throughout the State, and from the actual reports in his possession had compiled the table which accompanied the paper. With the increase of various kinds of modern machinery, and of railroads, amputations have become much more common than formerly, and of the nearly one hundred cases of which the table was made up, no less than nineteen-twentieths of the amputations were from railway injuries. In the amputations of the upper extremities the patients almost without exception recovered. Of the thirty-four amputations of the legs and thighs, one-half recovered. As a rule, he believed that it was by far the best plan to operate immediately after the reception of the injury.

DR. LYNDE then read a paper on

THE FUNCTIONS OF THE AURICLES.

Having mentioned that the auricles were merely diverticula and reservoirs, he said that they were merely passive, and that there was but one active force in the heart, viz., the contraction of the ventricles. The greater part of the paper was taken up with an argument to prove that the auricles did not contract.

DR. AUSTIN FLINT, JR., remarked that it was difficult to discuss extemporaneously a paper of this character, the nature of its contents being previously unknown. The views of Dr. Lynde were, moreover, so novel and so greatly at variance with those of all physiologists, so far as he knew, that he could not permit them to pass unchallenged. In the lower animals he had over and over again plainly seen the auricles contracting, and there were several reasons which occurred to him on the spur of the moment, why the author of the paper was mistaken in claiming that they did not contract. In the first place, the walls of the auricles, although much thinner than those of the ventricles, were composed in the main of striated muscular fibres, or, at all events, of a structure very closely resembling these, and it was a known fact in the animal economy that if any muscle was paralyzed, it underwent certain changes, such as fatty degeneration, and became atrophied. No such change, however, took place in the muscular walls of the auricles, which had the same structure as those of the ventricles. In the next place, the arrangement of certain of the fibres of the auricular walls surrounding the opening of the veins, constricted the latter to such an extent that regurgitation into the great veins did not occur beyond a very limited amount.

Thirdly, direct observation on dogs had shown the distinct contraction of the auricles, and the period of that contraction, and this without exposing the heart. Sounds, to which are attached two rubber bags, could be introduced through the jugular vein into the right cavity of the heart, so that one of the bags would be in the ventricle and the other in the auricle. It would then be found that the compression of the bag in the auricle occupied two-tenths of the time of the heart's pulsation, and was followed almost immediately by the compression of the bag in the ventricle, which occupied four-tenths of the time, the remaining four-tenths being occupied in general diastole. In the paper, Dr. Lynde had spoken of the suction force of the ventricles, but this he never could believe, since experiments showed that there was no such thing. The function of the auricles, as all physiologists agreed, was the discharge of a proper amount of blood into the ventricles, although their contraction was less powerful than that of the ventricles, and occupied only about one-half of the time required by the contraction of the ventricles.

DR. MOORE, of Rochester, at the request of Dr. Flint, Sr., gave an account of a series of original experiments on animals which he made in connection with the late Dr. Pennock in 1838, at a time when, as he said, very little was known of the details of the heart's action. If it were true that the auricles did not contract, they would be merely rudimentary organs, and he thought it is only necessary to look at their movements when the heart was exposed in animals to be convinced that their contraction was a positive fact.

DR. FLINT, SR., said that the author of the paper had referred the jugular pulse to the right ventricle. This was undoubtedly correct, as far as it went; but there was also an auricular jugular pulse, and he believed that he himself was the first to point this out. It preceded the contraction of the ventricle, the time of which was clearly indicated by the impulse of the heart, the first sound of the heart, and the carotid sound. Not infrequently there was both an auricular and a ventricular jugular pulse. There was another clinical fact of importance in this connection, and that was the presystolic murmur, which was generally conceded to be caused by the contraction of the auricle.

DR. ROSS said that at the last meeting of the New York State Medical Society he had reported a case of rupture of the right auricle, which, he believed, could not have taken place except while the auricle was in the act of contraction.

DR. LYNDE said that he had practised vivisection on from twenty-five to fifty dogs and sheep to determine this question. He had used various kinds and sizes of trocars and canulas, and while he invariably succeeded in getting a stream of blood when the instrument was plunged into the ventricles, he had never yet been able to do so when it was put into the auricles.

DR. E. D. FERGUSON, of Rensselaer County, read a paper on

THE USE OF THE ASPIRATOR IN HYDROTHORAX.

Having related a case in which death seemed to him to be due to the aspirator, he said that he had never used it except when urgent symptoms, such as dyspnœa, occurred, and then only in a very limited way. Previous to the invention of this instrument paracentesis thoracis had been regarded with much suspicion on account of the danger of pyothorax resulting; but of late, and especially since the publication of Dr. Bowditch's 250 cases, aspiration had been resorted to in a vast number of cases. Dr. Bowditch's rule was to stop the withdrawal of fluid only when pain in the epigastrium occurred; but he thought that the appearance of these symptoms indicated serious difficulty, and that the aspiration should be discontinued before they were produced. When aspiration was carried to too great an extent, a certain amount of congestion was caused and it might even give rise to hemorrhage, which greatly increased the danger of empyema. The withdrawal of all or nearly all the fluid from the pleural cavity was analogous to the complete evacuation of the overdistended bladder, which was well known to be fraught with danger. Having alluded to the danger of the indiscriminate use of the aspirator in pelvic troubles, he said that the instrument did not always save life, and that as it was now employed he believed that on the whole it really did more harm than good. The discussion was postponed until after the reading of a paper by **Dr. Thomas F. Rochester**, of Erie County, on

A NEW PROCEDURE IN PARACENTESIS THORACIS,

which consisted in the separation of the ribs by the introduction of the finger through the incision in the chest walls in those cases in which, on account of the small space between them, it was impossible otherwise to effect the entrance of a drainage-tube. He gave reports of three cases in which this manœuvre was attended with complete success and followed by no unpleasant consequences whatever.

Dr. Flint, Sr., thought there was a great deal of truth and reason in the views expressed by Dr. Ferguson, although he did not believe that the aspirator was responsible for so much evil as was claimed in the paper.

Dr. Moore said that he was disposed to agree with Dr. Ferguson in regard to acute pleuritis. But in empyema he had a firm conviction that the aspirator was better than all other means, and at this moment he recalled two cases in which he was certain the patients would have died if they had been treated by the methods formerly employed. The point taken by Dr. Ferguson, that the pleural cavity should not be emptied completely, he believed to be a good one.

Dr. Rochester said that he believed that, next to Dr. Bowditch, he had performed paracentesis thoracis oftener than anyone in this country. In empyema, he thought it a waste of time to use the aspirator, and that the drainage-tube was much preferable. He then gave the details of the method of procedure which he employed, and said that the results which he obtained were excellent.

Dr. Ferguson agreed with Dr. Moore as to the advantages of aspiration in hydrothorax. In regard to the use of the aspirator for diagnostic purposes, in the cavity of the pelvis and some other parts of the body, he thought very great caution was necessary, and that the profession hardly realized how great was the danger sometimes attending it.

Wednesday, November 19th—Second Day.

Morning Session.

Dr. Gouley proposed a plan for

DIVIDING THE ASSOCIATION INTO FIVE SECTIONS

at its future meetings for the sake of convenience and the more successful prosecution of its scientific work, and, on motion of the Secretary, the matter was referred to the Council with the request that it should report on it at the next annual meeting.

FORMATION OF A LIBRARY.

Dr. Gouley then offered a series of resolutions providing that the Council should at once recommend the formation of a library for the Association, to be placed in the city of New York; that the Council should appoint a committee of three of its members, one of whom should act as librarian, to take charge of its management, and that a library fund should be raised by voluntary contributions. Dr. Gouley said that there was already the nucleus of a library on hand in the *Transactions* of other State societies which had been presented to the Association; that the use of forty American medical journals had been promised gratuitously, and that there was every reason to believe that within four or five months a room would be provided free of charge. It was proposed to make this library the headquarters of the Association, where all its Fellows could come as to a home. The resolutions were adopted.

AN ORIGINAL COPY OF THE CODE OF ETHICS OF THE AMERICAN MEDICAL ASSOCIATION

was presented on behalf of the Pennsylvania State Medical Society by Dr. H. H. Smith, of Philadelphia.

Dr. C. S. Allen, of Rensselaer County, reported a

CASE OF DIARRHŒA FROM DISEASE OF THE PANCREAS.

The patient, who was advanced in life, suffered from discharges from the bowels resembling fluid fat, and Dr. Allen called the case one of *adipose diarrhœa*. There was, besides, fecal matter, which was half-formed and in fasciculi or bundles. From time to time pain in the vicinity of the umbilicus would come on, and the patient would immediately have to go to stool. At a consultation over the case, it was thought that the pylorus might be affected, and that there was undoubtedly obstruction about the head of the pancreas. Under medicinal and dietetic treatment, the patient greatly improved; so that the pain disappeared, and it was only occasionally that fatty stools were seen. It was found afterwards, however, that the patient was also suffering from renal disease; the urine being scanty and containing one-fourth part sugar and one-sixth albumen, besides epithelial and hyaline casts and broken-down blood-corpuscles. Death finally resulted from the absorption of urea, combined with old age.

A GIFT TO THE LIBRARY.

The Secretary announced that **Dr. Gillis**, of Franklin County, would present to the library of the Association almost fifty volumes of either the London or Edinburgh *Medical Journal*, whichever might prove the more acceptable.

Dr. T. Gaillard Thomas then delivered

THE ADDRESS IN OBSTETRICS AND GYNECOLOGY.

(See The Medical News, November 22, page 561.)

Afternoon Session.

A paper on *The Practice of Medicine Forty Years Ago, with Comparative Position at Present*, by Dr. B. L. Hovey, of Monroe County, was read by title.

Dr. Darwin Colvin, of Wayne County, read a paper on

VENESECTION IN THE CONVULSIONS OF PREGNANT AND PARTURIENT WOMEN.

His remarks, he said, were based on an experience extending over very many years in the practice of his father and himself. His father had been in practice fifty years, and during the last thirty years of it he had been associated with him. In the past thirty years of his father's practice convulsions never followed in any instance in which venesection had been performed before confinement as a preventive measure, and his cases of eclampsia were, during this period, more satisfactory than in the later years of his practice, after the use of chloroform, ether, and hypodermic injections of morphia had come into vogue. In the first case in which he and his father employed chloroform, the convulsions returned after its use, and they were obliged to resort to vensection; with the result, as he believed, of saving the patient's life. In another case, in a young and delicate woman, whose weight was only 105 pounds, after remedies of various kinds had been employed for fourteen hours without avail, and death seemed imminent, twenty-five ounces of blood were withdrawn from the arm, with a similar favorable result. In a third case, in which he had had no opportunity of making a previous examination, he found at the beginning of labor that the urine contained one-fourth part albumen. He immediately administered an ounce of Rochelle salt; but, notwithstanding this, convulsions set in. Chloroform, chloral, bromide of potassium, morphia, and veratrum viride were tried in vain, and as soon as possible craniotomy was performed, and the uterus was emptied of its contents. After delivery, however, the convulsions set in again, and twenty-five ounces of blood were then drawn. After this there was but one convulsion (which was followed by a single inhalation of chloroform and one hypodermic injection of a quarter of a grain of morphia), and there was then no further trouble. In this instance the patient weighed only ninety pounds, and he firmly believed that both these women would inevitably have died if venesection had not been resorted to. In the last case reported, violent and prolonged convulsions set in about three weeks previous to full term, and the patient remained insensible for many hours. Thirty ounces of blood were taken, chloroform given by inhalation, and chloral and bromide of potassium by the rectum, with the effect of stopping the convulsions and restoring consciousness. The urine being found to be loaded with albumen, vigorous treatment for this condition was instituted. At the time of confinement, convulsions again threatened, but were successfully warded off by the use of chloral and bromide. He said that he might have quoted a vast number of cases, showing the benefit of venesection; but these would serve as examples. The lancet he believed to be the sheet-anchor in puerperal convulsions, and the special indication for its use, he thought, was a peculiar kind of irregularity of the pulse, which might be firm or otherwise in different cases. If venesection was resorted to before the patient had sunk into a profoundly comatose condition, he believed that it would always be followed by recovery, and in an experience of forty years he had never had a fatal case. In conclusion, he laid down the following rules for the avoidance of convulsions: (1) Always examine your patient at least two months before the expected confinement, if possible. (2) Test the urine from time to time during the intervening period. (3) If there is much cephalalgia, whether there is albuminuria or not, practise venesection. (4) Warn the patient against indulging in food that is likely to bring on acute indigestion. (5) Keep the bowels in a soluble condition. (6) If at the beginning of labor much headache is present, practise venesection, and if the suffering continues, give a hypodermic injection of a quarter of a grain of morphia.

Dr. E. M. Moore said that the admirable results mentioned by Dr. Colvin did not accord with contemporary experience. He himself in past years had practised venesection in a very large number of cases, sometimes drawing as much as twenty-five ounces; but it had not always been successful in saving the patient. In puerperal convulsions, he believed the way to affect a cure was to eliminate the poison which was causing the trouble. In all the old cases it had been the practice, in addition to the bleeding, to administer purgatives, and the agents usually employed were calomel and croton oil.

In all the cases related in Dr. Colvin's paper, it seemed that a cathartic had also been given; and he could not help feeling convinced that for the albuminuria of pregnancy and other curable forms of albuminuria, cathartics were the great remedies to depend on. When the uterus had been emptied, the albuminuria generally disappeared (though not always), and in any case of labor in which convulsions threatened, or had actually set in, it was a matter of prime importance to get the uterus emptied as soon as possible. Now, in these convulsions it so happened that whatever would suspend the attacks until cathartics had time to act, whether bleeding, chloroform, ether, morphia, or anything else, would be of service. Cathartics are usually looked upon as a subordinate matter in the treatment, and often given simply as a matter of routine; but, in his opinion, they were the essential elements in the removal of the condition on which the convulsions depended. Unfortunately, sometimes patients succumbed before these agents could exert their beneficial action; but, as a rule, if we do anything that would suspend the convulsions for a time, an efficient cathartic would achieve a cure. There was no doubt that blood-letting would suspend almost anything for the time being—as, for instance, an attack of neuralgia; though it would be worse the next day. Hence in these periods when other agents that were now at our command were unknown, this procedure was of invaluable service in gaining time for the action of cathartics and the emptying of the uterus. Bu had we at the present time any other agent that would accomplish this purpose as well or better? In his opinion, decidedly we had, and that agent was ether; which he believed to be very much preferable to chloroform in these cases. It would suspend the convulsions more easily than bleeding or anything else with which he was acquainted. In his experience (as indeed in some of the cases mentioned by Dr. Colvin), the convulsions had not infrequently recurred after venesection, and the same was true in regard to the use of chloroform. But if ether was used *freely* and *perseveringly*, whether there was snoring respiration or not, the convulsions would almost invariably be controlled until the condition producing them had been relieved by the action of cathartics. It was essential, however, that the inhalations should be maintained constantly until either the uterus had been emptied or the bowels freely moved by the purgative given. There was no danger from the ether, and the physician ought not to be afraid to use it in the freest possible manner. Dr. Colvin had mentioned in one of his cases that the convulsions recurred regularly after a certain interval of time; the interval in that instance being seventy-five minutes. This periodicity was a curious feature of puerperal convulsions, which he had noticed in quite a number of cases; and whenever it was found to be present the physician should, of course, be careful to administer an extra quantity of the anæsthetic as the time approached for the recurrences.

The discussion was continued by Drs. Pomeroy and Cronyn, of Erie County, and Dr. Hovey, of Monroe County.

Dr. Thayer, of Brooklyn, said he fully believed in the principles enunciated by Dr. Moore, and, like him, he had used ether with much success. There was, however, another agent which had been reported very favorably upon at the meeting of the Kings County Society, and to which he should like to direct attention. This was Norwood's tincture of veratrum viride in teaspoonful doses, repeated as often as was indicated by the condition of the pulse. By means of it the pulse could be reduced to sixty or seventy, and kept there, and under these circumstances the convulsions would not recur.

Dr. Colvin closed the discussion. He said that he was not willing to admit that venesection was merely a diversion, being still firmly convinced of its curative agency.

A paper entitled *Notes on Peat as a Surgical Dressing*, by Dr. W. S. Tremaine, of Erie County, was read by title.

Dr. C. C. F. Gay, of Erie County, read a paper on

FRACTURE OF THE BASE OF THE ACETABULUM.

The positive diagnosis of this fracture was difficult, if not impossible, and in the treatment nothing more than rest can be prescribed. He had seen a specimen of bony union after the accident, and he thought the fracture was probably more frequent than was generally supposed, as it might be due to slight causes. It might occur alone or in connection with fracture of the innominate bone, and either with or without displacement of the head of the femur, and he desired to call attention to it especially for the purpose of warning surgeons against too much manipulation of the part, which was likely to result in far greater harm than good. Having described the delicate anatomical structure of the acetabulum, he referred to two cases illustrating the difficulty of diagnosis. The first had been reported by Dr. H. B. Sands, of New York, and the second had occurred in his own practice. The latter was that of a woman who fell thirteen feet, striking the hip. The diagnosis of probable intracapsular fracture was made, and extension was found to give relief. She afterwards died of septicæmia, and at the autopsy it was found that there was a fracture of the acetabulum in three directions, and involving a portion of the innominate bone. The specimen was exhibited.

In this fracture, Dr. Gay went on to say, there were no shortenings, no eversion, and no crepitus. If crepitus existed when the acetabulum was fractured, it was from a portion of the *os innominatum* being involved. There was almost always pain in the hip, which was increased by the movement of the joint, and, therefore, if there was severe and constant pain in this locality which could not be otherwise explained, it would be of significance in the diagnosis. Exploration through the rectum or vagina might also be of service. There was no danger from an uncomplicated fracture of the acetabulum if left alone. Slight extension might be employed if it was grateful to the patient.

Dr. Brown, of Chemung County, mentioned a case of probable fracture of the acetabulum, which had occurred in his practice, with complete recovery after treatment, with slight extension and the subsequent use of crutches for a time; and Drs. Cronyn and Pomeroy each said he had at present under his care an obscure case, in which he thought, after hearing Dr. Gay's paper, he would be able to make the diagnosis of this fracture.

Dr. J. C. Orton, of Broome County, read a paper entitled

A CASE OF TUBAL PREGNANCY, AT FULL TERM, OF FOURTEEN YEARS' STANDING; AUTOPSY.

The patient having noticed a peculiar oily discharge from the rectum, he made digital exploration of the latter, and found an opening about four inches above the anus, through which he could feel a hard, movable object. This proved to be the right tibia of a full-grown fœtus; and by the same opening, about a hundred bones had been removed, when the patient was carried off by a violent attack of diarrhœa, which, at the time, was epidemic at Binghamton, where she resided. The details of the autopsy were given, and the bones of the fœtus presented. The prolongation of the life of the child to full term in pregnancy, he said, was exceedingly rare, and he had been able to find one other instance of it recorded in this country. Having mentioned that he had intended, if the patient had not died, to crush the tables of the skull and extract through the enlarged opening, he said he should like to have an expression of opinion from those present as to what surgical interference was called for in this case, with and without the light of the autopsy. The sac and the fœtal bones he proposed to present to the Woman's Hospital in New York.

Dr. Isaac E. Taylor, of New York, related the case of a woman who, at the end of eight and a half months of pregnancy, was admitted to Bellevue Hospital in a dying state from internal hemorrhage. At the autopsy it was found that she was suffering from tubal pregnancy. It was exceedingly rare for the fœtus to live to this stage, and it was the only case of the kind that he had ever met with. The specimen was preserved in the Wood Museum.

Dr. Nathan Bozeman, of New York, read a paper on

A CASE OF TUBAL PREGNANCY CONSIDERED IN RELATION TO RUPTURE OF THE TUBE; DIAGNOSIS AND TREATMENT.

The object of the paper, he said, was to call special attention to the dangers and treatment of extrauterine pregnancy, and to the importance of early diagnosis; as illustrated in two recent cases in his own experience.

Having spoken of the immediate and remote dangers of the condition, he referred to the impetus given to the study of the subject, especially in reference to the matter of diagnosis, by the contribution of Dr. Stephen Rogers, of New York, in 1867. In the way of treatment, he urged the use of electricity whenever a diagnosis was made before the rupture of the cyst, and where rupture had occurred, the prompt resort to laparotomy in order to arrest the hemorrhage. In this last operation, Mr. Lawson Tait had been more successful than any surgeon of any country, having performed laparotomy at the time of rupture (from the tenth to the thirteenth week) in five cases, with four recoveries. He then spoke of a case operated on by Dr. Briddon, of New York; after which he gave the details of a case, seen in August, 1884, in consultation with Dr. Burns, of Honesdale, Pa. Dr. Burns mistook the case for one of pelvic hæmatocele after the rupture of the cyst during the thirteenth week of pregnancy, and it was not till seven days after the rupture that Dr. Bozeman saw the case and made the diagnosis. At that time, however, the condition of the patient had improved to such an extent that he did not feel justified in operating, and advised that no immediate interference should be made. Shortly afterwards alarming symptoms ensued, and Dr. Bozeman performed laparotomy with all the precautions of antiseptic surgery. The enlarged tube was removed, and the hemorrhage controlled; but the patient died from exhaustion thirty-three hours after the operation. The ruptured tube, with a large clot protruding from the opening, was exhibited. Dr. Bozeman then detailed a case which he saw in consultation with Dr. John Burke, of New York, in which three years and two months after the death of the fœtus at the end of six months in an extrauterine pregnancy, the patient gave birth, at the end of seven and a half months of normal pregnancy, to a child which had evidently been dead for some time. After the delivery of this child, an incision was made through the posterior wall of the vagina, and the remains of the former fœtus removed. The bones were complete, but the soft parts had been almost entirely absorbed. The specimens were exhibited. The paper concluded with a *résumé* of the various points in diagnosis and treatment.

DR. ARNOLD said that there was a specimen in the museum of the Albany Medical College, taken from a woman who carried an encysted extrauterine fœtus for fifty-two years.

DR. ROSS related a case very similar to the one reported by Dr. Bozeman, occurring in the practice of Dr. Price, of Elmira. There was no operation; but death did not occur until nearly seven months after the rupture of the cyst.

DR. ROBERT NEWMAN spoke of a case which had been reported to the New York Pathological Society. The skeleton of the fœtus was complete, but between one and two years were occupied in the delivery of the bones. The patient entirely recovered. He wished to know in what way electricity acted in extrauterine pregnancy.

DR. BOZEMAN said that the *modus operandi* of electricity seemed to be that it destroyed the life of the fœtus, and that nature herself disposed of the remains. If a large fœtus like that in his second case could be successfully disposed of, a fœtus in the early stages of development could much more readily be disposed of. He then related a case which he had seen in New York in consultation only last week. When the diagnosis was made, the cyst seemed just on the point of rupture, and it was at once decided to resort to the use of electricity. Four applications, of ten minutes each, had accordingly been made by Dr. Rockwell, and the patient was doing remarkably well. There was a slight bloody discharge from the vagina, which the microscope showed to be of a decidual character, and there could thus be no doubt about the diagnosis.

DR. E. R. SQUIBB mentioned a specimen, in the museum of the Jefferson Medical College Hospital, of a cyst which had remained in the abdomen of a negress for twenty years, and removed after death.

DR. C. S. BULL, of New York, read a paper on

THE HYDROCHLORATE OF COCAINE IN OPHTHALMIC SURGERY.

Having remarked that within certain limits it was an agent of the greatest possible value, he proceeded to give his own experience with it: showing its anæsthetic effect upon the sensory nerves of the cornea and conjunctiva, and its effects upon the pupil and upon accommodation. In 150 cases in which he had used it for the production of anæsthesia of the cornea or conjunctiva, its action had been perfect, with the exception of three cases, in which its effect was only slight. As to the effect of the agent upon accommodation, his results were unsatisfactory. The range of accommodation was shortened by it, but in no instance was complete paralysis of accommodation caused by it. Its effect was less marked, and more transient on the ciliary muscle than on the iris. Having given a *résumé* of the operations about the eye in which he had employed it, Dr. Bull said he was convinced that the drug was of extreme value, and that even those least enthusiastic over its effects would welcome it as a relief from the thraldom of ether and chloroform, which had so many disadvantages for the ophthalmic surgeon.

DR. H. E. MITCHELL, of Troy, confirmed, from his own experience, all that Dr. Bull had said of the good results obtained with this agent. In his own practice he had for a long time been in the habit of using bromide of ethyl as an anæsthetic, and up to the recent discovery of this effect of muriate of cocaine he considered it by far the best and most convenient that the ophthalmic surgeon could employ. Two or three minutes were sufficient to induce anæsthesia with it, and he thought it was entirely safe for short operations.

DR. SQUIBB made some remarks on the production and cost of hydrochlorate of cocaine. Up to the present time he had not succeeded in making it himself, except in such minute quantities as to render its extensive manufacture out of the question, and as yet it was manufactured by but one house in Europe.

EVENING SESSION.

DR. FREDERICK W. PUTNAM, of Broome County, reported

A CASE OF DISLOCATION OF THE FIRST PHALANX OF THE THUMB FORWARDS.

The patient to whom this rare accident occurred was a lad ten years old. After the reduction of the luxation a loose bandage was applied, and water dressing used for a time, the case doing perfectly well.

A paper on *Common Sense versus Hypothetical Medication in Treating Chronic Diseases*, by Dr. Jonathan Kneeland, of Onondaga County, was read by title.

DR. JOHN P. GRAY, of Oneida County, read a paper entitled

HINTS ON THE PREVENTION OF INSANITY,

in which he showed the importance of looking out for early symptoms, such as fagging of the brain, which might eventually result in insanity, but which, if taken in time, could ordinarily be cured without difficulty. In cases affected with sleeplessness, a proper diet and regimen, combined with suitable tonics, were much better, as a rule, than hypnotics and narcotics, which were apt to do more harm than good. Moral influences could often be brought to bear with great care in these cases, and great care should be taken never to startle such patients with suggestions of trouble to be apprehended in the future. One source of a number of cases of insanity he had found was setting children and youths to work at school too soon after having had severe attacks of scarlet fever, measles, and other diseases, before their nervous systems had had time to recover from the exhaustion incident to such affections.

DR. STEPHEN SMITH, of New York, read a paper on

EXCISION OF THE KNEE IN PREFERENCE TO AMPUTATION IN CERTAIN DEFORMITIES OF THE LEG.

It was principally composed of tables, which Dr. Smith did not read. As excision was proved by statistics to be quite as safe as amputation above or below the knee, and as it seemed to be established that a firmly ankylosed knee-joint was more useful than a stump, he thought excision was to be preferred.

DR. S. W. GROSS, of Philadelphia, described an operation, devised by his father, for increasing the usefulness of a limb when the knee-joint had become an entirely bony structure, which was very simple, and deserved more attention, he thought, than it had hitherto received. The adhesions having been broken up, and the patella separated from the external condyle, the limb was gradually to be brought to that position which was best suited for progression, with the heel about one inch from the ground.

DR. MOORE spoke highly of the use of the osteoclast of M. Robin, of Lyons, in this class of cases.

DR. GEORGE T. HARRISON, of New York, read a paper on

THE CURETTE: ITS PLACE AND ITS POWER IN UTERINE THERAPEUTICS.

Having shown that many of the highest authorities were widely at variance in regard to the utility of the curette, he expressed himself as in favor of its employment to a considerable extent, and then proceeded to inquire (1) in what conditions it could be used with advantage, and (2) the best method of using it in appropriate cases. The instruments which he himself had employed almost exclusively were Sims's and Thomas's. Freund's spoon he had employed only in a few malignant cases. Among the conditions in which he recommended the curette were the following: Sarcomata and carcinomata, where more radical measures were contraindicated; detention of a portion of decidual membrane or ovum; various forms of chronic endometritis, and especially that characterized by fungoid granulations with hemorrhagia and metrorrhagia; small benign neoplasms, areolar hyperplasia, and myoma. It was also of service for diagnostic purposes.

DR. FREDERICK S. DENNIS, of New York, read a paper on

THE RELATIONS BETWEEN TUBERCULOUS JOINT DISEASE AND GENERAL TUBERCULOSIS.

By tuberculous joints he said he meant those in which bacilli tuberculosis were found, and by general tuberculosis he meant the acute miliary disease. There could be no doubt, at the present day, of the tuberculous origin of joint disease, and the way in which scrofula, when it was present, acted in any case was simply to furnish a suitable soil for the development of the tuberculous affection. The best modern German authorities had found that one-third of the cases of joint disease were connected with scrofula, and that only one-sixth were due to traumatism. Dr. Dennis related a case in which he performed amputation for disease of the wrist-joint, which was proved to be unmistakably tubercular by the presence of the bacilli. The patient recovered perfectly from the amputation, but afterwards died from general tuberculosis; evidence of the presence of the disease being found in almost every organ in the body. The affection always spread from local foci, and the removal of glands containing cheesy masses was a means of preventing general tuberculosis.

DR. S. W. GROSS fully confirmed the views expressed by Dr. Dennis, and said that he felt sure that no more important paper had been or would be presented to the Association. The practical lesson to be learned from it was the early treatment of diseased joints. At first the affection was a strictly local one, which showed that it was auto-infectious; and if operative procedures were resorted to early, there was no doubt that many patients could be saved from acute miliary tuberculosis. If left to itself the disease affected adjacent tissues, behaving like cancer; and he thought that the analogy between it and cancer was almost perfect. It was of special importance to extirpate affected glands—Billroth's statistics showed that of the deaths from joint disease, not less than 54 per cent. were from acute miliary tuberculosis, and 33 from amyloid degeneration.

DR. WM. T. LUSK, of New York, read a paper on

THE MANAGEMENT OF BREECH CASES, IN WHICH THE LOWER EXTREMITIES ARE EXTENDED UPWARD PARALLEL TO THE BODY OF THE CHILD.

If the foot could not be reached without using force, or if it was impossible to hook the finger in the groin, it often became necessary to use instruments, and Dr. Lusk mentioned these in the order in which he would recommend their employment, viz.: the forceps, the fillet, the blunt-hook, and the cephalotribe; the latter being the best instrument if the child was dead. Although the forceps were, of course, especially adapted for the head, they could be used with much greater advantage in breech presentations than was generally supposed, and since the axis-traction of Tarnier had been known new impetus had been given to their employment in this class of cases.

DR. THOMAS H. MANLEY, of New York, read a paper on

WOMEN AS MIDWIVES,

in which he advocated the training of midwives for the poorer classes. It was a fact now, he said, that fully one-third of the wives of workingmen in New York were unattended in their confinements, and this would seem to indicate that good midwives were wanted. One advantage of having intelligent and trained women for the purpose was that in case of difficulty they would send for a physician, and not leave the patient to die without skilled attention.

Thursday, November 20th—Third Day.

Morning Session.

On motion of Dr. S. S. Purple, resolutions in reference to *The Death of Dr. John G. Adams* were passed.

THE VANDERBILT AND CARNEGIE GIFTS.

Dr. Austin Flint offered the following resolutions, which were unanimously passed:

The New York State Association, having heard with great satisfaction of the recent gift of Mr. Andrew Carnegie, of $50,000 for the erection of a building to be devoted to physiological and pathological laboratories, and the more recent gift of Mr. Wm. H. Vanderbilt of $500,000 for the prosecution of scientific researches and instruction in medicine, it is

Resolved, That this Association tender to Mr. Carnegie and Mr. Vanderbilt congratulations and thanks, on behalf of the interests of medical science and of humanity.

Resolved, That the Corresponding Secretary of this Association be instructed to transmit the foregoing resolution to Mr. Carnegie and Mr. Vanderbilt.

ELECTION OF OFFICERS.

The following officers, reported by the Committee on Nominations, were unanimously elected:

President.—Dr. John P. Gray, of Utica.

Vice-Presidents.—Drs. W. H. Robb, of Montgomery County; J. G. Orton, of Binghamton; J. C. Greene, of Buffalo; and J. C. Hutchison, of Brooklyn.

New Members of the Council.—Drs. Wm. Gillis, of Franklin County; R. C. McEwen, of Rensselaer County; Frederick Hyde, of Cortland County; Darwin Colvin, of Wayne County; and J. W. S. Gouley, of New York County. Dr. S. S. Purple, of New York, was appointed Member at Large by the President.

Recording Secretary.—Dr. Caleb Green, of Cortland County.

Treasurer.—Dr. John H. Hinton, of New York.

Dr. Austin Flint, of New York, then delivered an

ADDRESS ON MEDICINAL AND NON-MEDICINAL THERAPEUTICS.

(See page 589.)

RESOLUTIONS OF SYMPATHY FOR PROF. SAYRE.

On motion of **Dr. Flint**, resolutions of sympathy for Dr. Lewis A. Sayre, on account of his prolonged illness, were adopted.

A VOTE OF THANKS

having been tendered Dr. Gouley for his valuable services in arranging the present meeting, and his untiring efforts for its success, the President introduced

THE PRESIDENT-ELECT,

Dr. Gray, who gracefully returned his thanks, and said that the Association was not an offshoot, but a body spontaneously brought together, which represented principles which they believed to be necessary for all.

Afternoon Session.

Dr. Gaspar Griswold, of New York, read a paper on

FALSE ALBUMINURIA.

This, he said, included two distinct classes of cases: (1) those in which the urine does not contain albumen, but a precipitate resembling albumen is noticed under ordinary tests, and (2) those in which albumen is present in the urine, but does not come from the kidney. A small quantity of albumen in the urine was often of greater importance than a large amount, since there was no difficulty in those cases of Bright's disease in which there was marked albuminuria, which was usually accompanied with extensive dropsical effusion. It was of great moment, therefore, to decide whether a slight cloud discovered under careful testing was really albumen or not. In this paper Dr. Griswold said he would confine himself to the ordinary tests of heat and nitric acid; but it must be understood that the test-tubes employed should be absolutely clean, that the urine should be carefully filtered, and that the testing should be made in a suitable light, with the tube held against a black background. He then proceeded to speak of the substances in the urine which were likely to give precipitates resembling albumen, and the mode of detecting them.

(1) *Phosphates.* Here the heat-test and cold nitric acid test would answer.

(2) *Mucus.* This did not usually interfere with the examination for albumen; but there are two exceptions: (*a*) when the mucus was alkaline, and (*b*) when it was in such excess that a slight cloud of albumen could not be observed. In the first condition the cold nitric acid test would answer, and in the second the mucus could be removed by adding liquor potassæ and filtering; when the cold nitric acid test could be employed as before.

(3) *Uric acid.* In this case the urine was to be diluted.

(4) *Peptones.* True peptones were not precipitated, but hemipeptones were precipitated by cold nitric acid.

(5) *Resinous drugs, like copaiba.* Here alcohol could be used to dissolve the resinous precipitate.

When albumen was present in the urine, but did not come from the kidney, it was due to one of the following substances: (1 *Blood.* To be detected by the microscope. In some instances only albumen and coloring matter remained; the corpuscles no longer existing. Here the test for hæmoglobin was to be applied. (2) Pus. (3) Prostatic or spermatic fluid.

The following papers were read by title: *Stretching of the Nasal and Infraorbital Nerves in Ciliary Neuralgia*, by C. E. Ross, of Chemung County; *A Case of Ovarian Cyst, with Operation*, by Dr. T. M. Lloyd, of Kings County; *Organic Disease of the Brain not a Constant Factor in Insanity*, by Dr. S. T. Clark, of Niagara County; *Supporting the Perineum in the Act of Parturition*, by Dr. Jacob Hartman, of New York.

Dr. Samuel W. Smith, of New York, read a paper on

THE EARLY USE OF THE KNIFE IN NÆVUS OF THE CAVERNOUS ANGIOMA VARIETY AS CONTRASTED WITH OTHER MODES OF OPERATION FOR REMOVAL.

He was aware that the position he took was a bold one, and antagonistic to many trustworthy authorities;

but he preferred the knife, as a rule, for the reason that that in the others there was great danger o the absorption of putrescent material. In support of this position he detailed two cases in which the patients, both of whom were very young children, came near dying from pyæmia from operations with needles. They were afterwards treated with the knife, and good results obtained in each instance.

DR. E. G. JANEWAY, of New York, read a paper on

ABSCESS OF THE LIVER.

The impression that this affection was a very uncommon one in this climate was erroneous, and practitioners should, therefore, be constantly on the lookout for it. In this paper it was proposed to treat only of proper abscesses of the liver, single or multiple, and during the past year he had met with no less than seven such cases. Four of the patients were still living, three of whom were operated on, while in the fourth the abscess discharged spontaneously, both into the right lung and the intestines, and three had died. The seven cases were given in detail; after which Dr. Janeway referred briefly to the symptoms of the disease. Jaundice was usually conspicuous by its absence, and the same was true of melancholia, which had been supposed to be frequently associated with hepatic abscess. There was usually hectic—the fever varying very greatly in different cases and at different times—tenderness, and pain, which was not infrequently reflected to the right shoulder. The points to which Dr. Janeway called attention in conclusion were as follows: *First.* Abscesses of the liver could be divided into three classes, according to their location: (*a*) those in the left lobe; (*b*) those in the lower part of the right lobe, and (*c*) those in the upper and posterior parts of the right lobe. *Second.* The difficulties of diagnosis could be lessened by the history of the case and the exclusion of other affections. *Third.* There were several methods by which adhesions between the liver and abdominal walls could be detected. *Fourth.* In the matter of etiology, he thought that many of the cases that were regarded as idiopathic were in reality of traumatic origin; the injury giving rise to the trouble having escaped notice. He did not wish, however, to deny the agency of bacteria in causing abscess of the liver.

The SECRETARY announced that there were now

TWO HUNDRED REGISTERED FELLOWS IN ATTENDANCE,

and that the whole number of names on the books of the Association was upwards of 440.

DR. J. LEWIS SMITH, of New York, read a paper on

DIPHTHERITIC CROUP.

In pseudo-membranous laryngitis and tracheitis, whatever the cause, the pathological appearances, clinical history, and treatment were practically identical. While croup was, undoubtedly, usually associated with diphtheria at the present day, it was a fact well established, he thought, that it could exist without diphtheria, as was proved by the fact that it was a clearly recognized disease long before diphtheria was ever known in this country. We must, therefore, recognize a cause for croup which is distinct from diphtheria. For the last five years the percentage of cases in which the larynx was attacked, in patients suffering from diphtheria in New York, was not so large as it had been for several years preceding. In speaking of the prognosis, he said that if in cases of diphtheria, the earliest symptoms of croup, such as hoarseness, etc., were watched for, the extension of the membranes to the larynx could usually be prevented, or, at all events, the laryngeal affection rendered much less serious than it might otherwise have been. In the treatment, he preferred inhalations of turbid lime-water with the addition of 1½ per cent. of liquor potassæ. He had lately found that *tripsin*, which was a large constituent of extractum pancreatis, was a safe and efficient solvent for fibrinous exudation, and he had already applied it with success to the fauces in mild cases of diphtheria. It seemed to him, therefore, that it might be added with advantage to the alkaline inhalations. For lack of time, he was obliged to omit any reference to the treatment by bichloride of mercury.

DR. J. P. GARRISH, of New York, had used the latter remedy with great success, and was in the habit of giving five drops of a solution of the strength of one grain to the ounce every hour, to a child two years of age. Turpentine on the larynx he had found an excellent local application.

DR. ROCHESTER, of Buffalo, had found that the most satisfactory way to treat diphtheritic croup was by insufflations of a powder consisting of one part of iodoform to two of bismuth, repeated every two hours, in addition to stimulants, and generally supporting treatment internally.

DR. REESE, of Brooklyn, said that for the past fifteen years he had used nothing but the external application of kerosene on flannel, and had never lost a case. The efficacy of the remedy he did not think was due to its counter-irritant effect, but to inhalation of the fumes of the kerosene.

DR. CARROLL, Secretary of the State Board of Health, said that the danger of diphtheria was not by any means commensurate with the extent of exudation present in any given case. Referring to the relations of scarlatina with diphtheria, he said that the latter was almost invariably post-scarlatinal; but he had seen one case in which, on the eighth or ninth day of an attack of diphtheria, when the disease was subsiding, a rise of temperature occurred, and within twenty-four hours well-marked scarlatina, which ended fatally, had developed. The child had been completely isolated during its entire illness.

DR. MOORE, of Rochester, had found the use of the atomizer inefficient in young children, and thought that insufflations of bicarbonate of soda, lasting for five minutes and repeated every hour, were much preferable. This measure, with the filling of the sick-chamber with fumes of burning sulphur, he considered the best method of treatment. It was astonishing, he said, how little inconvenience the sulphur fumes caused the persons in the room after they had been subjected to them for a short time.

DR. AUSTIN FLINT, JR., of New York, read a paper on

TYPICAL CASES OF DIABETES MELLITUS NOT BEFORE REPORTED.

Since he had read his report of fifty cases at the meeting of the American Medical Association in May last, he had met with four other typical cases which he wished now to present. In the first, the patient, a lady of twenty-two, had allowed the disease to run its course without interference for a year, indulging inordinately in sweets at a time when the affection was at its height, and although there had been considerable improvement under treatment, it was impossible to get rid of the sugar in the urine entirely; and, as the case was complicated with renal difficulty, he regarded the prognosis as unfavorable. In the other three cases, in which the ages of the patient was respectively fifteen, thirty-four, and fifty-nine years, the sugar had disappeared as soon as the treatment was commenced, and had never returned; the treatment consisting of anti-diabetic diet and Clemen's solution of arsenite of bromine in doses of from three to five drops. From his experience, he could assent to the statement made by Cantani, that diabetes has to-day become a curable disease.

Dr. Clark, of St. Albans, Vermont, related his experience with the affection in his own person, and Dr. Fifield, of Boston, told of the sad case of his son, a lad of fourteen, who after being mangled by a savage bulldog was attacked with diabetes, which, in spite of every possible method of treatment, ran a rapidly fatal course. He believed that it was a very fatal disease among the young, and that the older a person was when it came on, the better the chances of recovery were.

Dr. Flint said that he had seen the sugar disappear from the urine in the young as well as the old, and the second case which he had described in his paper was a striking example of this. When this girl was brought to him, she was already on anti-diabetic diet, and as he could not find any sugar in the urine, he was inclined to doubt the diagnosis of diabetes. He, therefore, instructed her to eat freely of all kinds of food for twenty-four hours, and at the expiration of that time he found her urine loaded with sugar. It again disappeared as soon as the anti-diabetic diet was resumed.

Dr. C. W. Ross, of Chemung County, read a paper on a

CASE OF RUPTURE OF THE UTERUS.

The patient had a deformed pelvis, and was advised to have labor induced prematurely, but refused. The uterus ruptured in labor at full term, and the child, membranes, and placenta, escaped together into the abdominal cavity. There was only one other case on record in which this was known to have occurred. The uterus, with the rupture, eight inches in length, was exhibited.

Dr. R. B. Bontecou, of Rensselaer County, presented

A CASE OF CONSERVATIVE SURGERY.

The patient had received a severe gunshot injury of the left shoulder during the war, and resection was afterwards performed. As much of the periosteum as possible was left at the operation, and the result was that several inches of the humerus were restored by nature.

A paper by Dr. John H. Hinton, of New York, on *A Case of Gunshot Wound of the Stomach, with Recovery*, was read by title.

Dr. J. W. S. Gouley read a paper, entitled

REPORT OF A CASE OF LIGATURE OF THE PRIMITIVE ILIAC ARTERY FOR DIFFUSE ANEURISM OF THE EXTERNAL ILIAC ARTERY.

The aneurism was of traumatic origin, and after ligating the artery he desired to apply a second ligature and open the sac, but was dissuaded by his colleagues at the hospital. Had he done this, he thought the patient's life could have been saved. As it was, in a few days the sac ruptured, an abscess formed, the walls sloughed, and death resulted on the nineteenth day after the operation. The point which he wished to have discussed was, how far he was justified in considering the procedure contemplated after the ligation alluded to in the paper the best method of treatment.

Dr. Fifield believed that it was the right plan to adopt in such cases, and gave for his opinion the authority of the illustrious John Bell, of whom he remarked that time had not taken much from what he said or added much to it.

The Association then adjourned.

In the evening the Fellows residing in New York County entertained the Association and its guests at

A BANQUET

at the Murray Hill Hotel, and on the day following, November 21st, after the visit to Bellevue Hospital, the Association was taken by the Commissioners of Charities and Correction on

AN EXCURSION

to the hospitals and other institutions on Blackwell's, Randall's, and Ward's Islands.

CORRESPONDENCE.

A CONTRIBUTION TO THE STUDY OF THE THERAPEUTIC ACTION OF COCAINE HYDROCHLORATE.

To the Editor of The Medical News.

Sir: So much has already been said about the new local anæsthetic, that it would seem almost useless for a general practitioner, whose opportunities for testing it in eye surgery are limited, to attempt to add anything to the general stock of knowledge on the subject; but I have been requested, by friends who are more familiar with ophthalmic surgery than I am, to report a case, recently under my observation, in which the use of cocaine hydrochlorate was followed by most striking results. Whether these results were *propter hoc*, or simply *post hoc*, I do not pretend to say, but I give the case for what it is worth:

On the evening of November 10th, a colored boy, about fourteen years old, while stooping over a stove struck his eye against the hot iron. The pain was extremely severe, and had abated but little in severity when I saw him, six hours after the accident. In order to give him relief from pain, and to enable me to make a satisfactory examination of the eye, I dropped two or three drops of a two per cent. solution of cocaine hydrochlorate in the folds of the lower lid. In four or five minutes the well-known anæsthetic effect was produced, and I found on examination that the whole of the upper half of the cornea had been burnt over absolutely opaque. On passing my finger over this surface, it was evident that the corneal tissue itself was involved, and that it was not simply coagulated lymph which caused the opaque appearance. There was considerable injection of the conjunctiva.

Ten minutes after the first instillation, I put in ten more drops of the cocaine solution. Nothing else was done, the pain being relieved, an it being then midnight and impossible to get the boy or his friends to carry out such measures as would otherwise have been employed. At 9 o'clock the next morning, the cornea was perfectly clear, though the eye was still red and painful. The cocaine solution was applied three times a day till November 18th, when the inflammation of the conjunctiva had almost entirely disappeared, and there was no longer any pain or intolerance of light. To-day, November 20th, the eye is nearly as well as ever, and there is no trace of the corneal injury or opacity.

Dr. H. T. Nelson, of this place, tells me that he has observed a similar result from the instillation of a two per cent. cocaine solution, in a case in which there was an opaque line across the cornea, from the irritation set up by a piece of steel or coal, which had stuck in the cornea and remained there several days before it was removed. Two days after the use of the cocaine solution to anæsthetize the eye, in order to remove the foreign body, the opacity had entirely disappeared.

In several of the cases in which I have used it, it seemed to diminish the congestion of the conjunctiva, even when acutely inflamed, and this action is in keeping with the observations of Dr. F. H. Bosworth, of New York, who found it to cause contraction of the bloodvessels of the nasal mucous membrane when applied thereto.

Further observations will, of course, be necessary before any definite conclusions can be reached as to the value of cocaine (aside from its anæsthetic action) in such cases as those which I have mentioned. The object of the present paper is simply to call attention to the subject.

Wm. C. Dabney, M.D.

Charlottesville, Va., November 20, 1884.

NEWS ITEMS.

NEW YORK.

(From our Special Correspondent.)

Yellow Fever and Quarantine.—Much newspaper sensationalism has been generated by the announcement that a yellow fever patient had run the gauntlet at "quarantine," and had found his way to a sailors' boarding-house. The health officials of the city promptly removed him, and there is no cause for worry.

The New York Medical Association has met at the Murray Hill Hotel, and much interest has attended its deliberations. Its *raison d'être* is "the Code," and its membership comprises some of the best known names in the city. A number of really good papers of an essentially practical character were read.

Mr. Richard's Lunacy Case.—Dr. Packard, of Philadelphia, came on the other day to appear in the lunacy proceeding in which Mr. Richards, the son of a former Philadelphia mayor, figured. This is another one of those outrageous habeas corpus cases brought by designing persons; in this instance to remove from Dr. Barstow's private asylum a patient who was so deeply demented that he had no idea of any of the proceedings. Judge Bartlett sharply reprimanded the lawyers, and accepted the reports of Drs. Gray and Hamilton, whom he had appointed and who pronounced the man indubitably insane.

Cocaine is being used by other physicians than the oculists. Dr. Bosworth has met with very great success in its local application to the nasal fossa in the removal of polypi and enlarged turbinated bones, and we heard only a day or two ago of its having been used in an operation for the removal of hemorrhoids, in both instances with great success.

Dr. Samuel B. Ward, of Albany, is the physician of the President-elect, and one of his warmest friends.

Dr. Hack Tuke, of London, before he left New York, was the recipient of a large lunch party at Bloomingdale Asylum. His vacation here was spent in inspecting the insane asylums, and collecting literary material.

CHICAGO.

(From our Special Correspondent.)

The County Insane Asylum.—On Tuesday, November 11, Dr. S. V. Clevenger, Special Pathologist to the Cook County Insane Asylum, read a paper, entitled "Political Abuse of the Insane," before the Chicago Medical Society. He began by saying there was a wonderful similarity in the degradation of American insane asylums from the fact that all were controlled by politicians. The employés were generally of the same class. Investigations were almost invariably barren of results.

After referring to the fortunate election to the superintendency of the Cook County Insane Asylum of Dr. James G. Kiernan as a purely accidental occurrence, resulting from a ring quarrel, Dr. Clevenger made specific charges against the warden, matrons, and other employés. Dr. Kiernan's beneficent laws, as regards the restraint of patients, were not obeyed.

A great uproar followed Dr. Kiernan's first order to the attendants—not to restrain a patient without an order from a physician. The second order was to the effect that the night watch should not issue medicine to the patients at their own will, but were to call up a physician. Before this order, as much as ten gallons of sleeping medicine per month was dosed out in the most unskilful manner to all classes of noisy patients.

The patients were insufficiently fed and clad, and were overworked in the manufacture of fancy articles, carpets, etc., for the benefit of the officials.

Dr. Clevenger's paper elicited a very lively discussion, in which Drs. Paoli, Fenn, J. C. Cooke, Newkirk, and Davidson took part. A communication from the Citizen's Association, asking the Society to appoint three physicians to meet with two laymen from the Citizens' Association, for the purpose of investigating the condition of affairs in the Cook County Asylum, was then read.

CANADA.

(From our Special Correspondent.)

Removal of Large Calculus.—Dr. Burns, of Toronto, recently removed a calculus from the bladder of a youth, aged twenty-one, by the suprapubic method. The stone weighed three and a half ounces and its diameter was two and three-quarter inches. The case unfortunately proved fatal within twenty-four hours. The nucleus of the calculus consisted of a piece of pitch.

Cocaine.—Dr. Buller, Professor of Ophthalmology in McGill University, has been using hydrochlorate of cocaine extensively in his operations. He has performed several cataract extractions and iridectomies without pain by the aid of a solution of this new anæsthetic. He has also removed several tarsal cysts, but here he found that complete anæsthesia was more difficult to produce than in the eye itself, and the patients all felt slight pain during the operations.

Preliminary Examination of Ontario Medical Council.—The high school intermediate examination, which was formerly accepted as equivalent to matriculation before this Board, is now replaced by a third class teachers' examination with Latin. It is a more difficult examination than the intermediate.

PARIS.

(From our Travelling Correspondent.)

Successful Yellow Fever Inoculations.—The following appeared in the Paris papers of November 11th, and may be news to your readers:

In yesterday's session of the Academy of Science, M. Bouley, Vice-President, entertained his colleagues with a discovery of great importance. Since 1880 M. Domingas Freire, Professor in the Medical School at Rio Janeiro, has occupied himself with the question of yellow fever inoculation. He has even made several communications on the subject to the Academy of Medicine. He had not been able to demonstrate the microbe of yellow fever, but ascertained that the virus, of whatever nature it may be, had been attenuated, and that guinea-pigs had acquired immunity.

Since then, a Frenchman, M. Rabourgeon, a pupil of Chauveau, Pouchet, and Pasteur, had been called by the Emperor Dom Pedro, to found a veterinary school at Rio Janeiro. He started supplied with all the necessary apparatus for the study and culture of microbes.

Domingas Freire and Rabourgeon then united their efforts to solve the question. After having carefully experimented on guinea-pigs with the attenuated virus, they inoculated themselves as well as several students of medicine and employés of the Museum at Rio. They underwent the symptoms of mild yellow fever which disappeared in three days.

The Emperor Dom Pedro visited the laboratory, and having satisfied himself of the excellent results of their method, authorized them to experiment on human beings. Nearly 200 persons, most of whom were wharf-laborers, submitted to the vaccination and remained unaffected, while around them were large numbers of their comrades succumbing to the disease.

English sea-captains sailing in these latitudes, learning that yellow fever was epidemic at Rio Janeiro, had all their crews vaccinated, first setting the good example themselves.

The description of the microbe will eventually be published. Meanwhile it is certain that the attenuated virus has preserved about 500 animals and human beings, who had submitted to the vaccination.

These happy results must be compared with the report made by Dr. Rochard, that of twenty-five physicians sent to Senegal to care for the yellow fever patients, twenty-three had soon died, and the conclusion is near that this vaccination is destined to save the Europeans who visit the places where yellow fever is endemic. We are happy to see, adds one of the Paris newspapers, that one of our countrymen, a pupil of our own savants, is among the new benefactors of mankind.

National Conference of the State Boards of Health.—A meeting of the conference will convene at the Ebbitt House, Washington, D. C., at 10 a.m., December 10th, and the quarantine officers and the health officers of the principal cities in the United States and Canada, are invited to attend, and to be prepared to report the sanitary status of their State or locality, and what steps have been taken to improve the same, and to prevent the introduction of disease.

The gradual extension of the cholera in Europe, the serious outbreak of the disease in Paris, and the well-known fact that it has never prevailed in that country as an epidemic without reaching our continent, coupled with the knowledge that our national government is taking no efficient precautions to prevent its importation, give great importance to this meeting.

Removal of a Cystic Kidney.—Prof. Donald McLean, of Detroit, removed, on October 26th, a large cystic left kidney, both ovaries, and the greater portion of the great omentum, from a woman who is thought to be in an early stage of pregnancy. From recent reports, seventeen days after the operation, it seems that the patient has nearly recovered.—*The Physician and Surgeon*, November, 1884.

"Home Criticisms of Homœopathy."—*The New York Medical Times* (Homœopathic), in its issue for October, makes the following comments on an editorial under the above title, which appeared recently in a New Code contemporary.

"We have more than once had occasion to admire and commend the candor and intelligence with which the *Medical Record* occasionally treats, when it chances to be in a happy frame of mind, some of the great medical questions of the day. We were not prepared, however, for so wide a departure from the traditions and practice of its school, so clear a foresight of the future, and such an utter disregard of consequences, as when it boldly avows that 'homœopathy should be taught in all medical colleges, as a branch of historical medicine or psychological therapeutics,' and asserts 'that in that direction matters are rapidly tending.' We are aware that the *Medical Record* has for some time been foraging, with very evident satisfaction both to itself and readers, in the rich fields of homœopathic literature, publishing in successive numbers gleanings from the homœopathic materia medica, recommending in dysentery merc-cor. in the 16oth of a grain, in alternation with colocynth half-hourly in the 8oth of a drop, and also the 10,000th part of a grain of merc-cor. as an antiseptic; noting wonderful cures performed by drosera in whooping cough, by ipecac in minute doses in certain forms of nausea and vomiting, and by hepar-sulph. and a score of other remedies when specially indicated, whose therapeutic action has been so clearly set forth in our works on materia medica. Nearly all the manufacturing chemists, in their delicately prepared granules representing infinitesimal portions of medicine up to the 1000th of a grain, have contributed something to the advanced spirit of our contemporary, by placing facilities in its way of following out a line of scientific investigation which, when understood, appeals so strongly to its intelligence that it unhesitatingly asserts that 'homœopathy should be taught in all medical colleges as a branch of historical medicine.'

"As the history of Roman law is the history of the jurisprudence of all the most civilized and enlightened nations of the earth, so the history of homœopathy is the history of scientific therapeutics throughout the world. The *Medical Record* shows the drift of public sentiment, and its own foresight, when it urges that the 'history of homœopathy shall become part of the teachings of all medical colleges,' for all that is necessary to have those principles take the position they merit in all medical teaching and practice is to have them presented as the true historian would present them, in their naked strength. We have long believed that, in the not distant future, the history of homœopathy would form a part of the curriculum in all medical colleges which could lay claim to scientific impartial medical teachings, and we are glad to see one of the leading and most ably conducted journals of the old school assert, in such positive terms, that 'in that direction matters are rapidly tending.'"

NOTES AND QUERIES.

ERYTHROXYLON COCA AS AN ANÆSTHETIC.

To the Editor of THE MEDICAL NEWS.

SIR: In March, 1876, I drew attention, in the London *Lancet*, to the anæsthetic action of coca on the throat and larynx, when used in the form of inhalation, and mentioned cases in which the smoking of coca leaves, mixed with tobacco, had a decided sedative effect on bronchial spasm, idiopathic asthma, chronic irritating cough, etc. Since then I have many times recommended its admixture with tobacco to sufferers from the above complaints with success; and, indeed, know asthmatic patients who habitually use it to ward off or relieve attacks. I also mentioned in my original communication that coca dilated the pupil.

I here refer to these observations of mine, made in 1876, as coca is again engaging the attention of the medical world as an anæsthetic for the eye and throat.

LOUIS LEWIS, M.D.

1632 VINE ST., PHILA., Nov. 15, 1884.

NOT NEW, BUT A NEW APPLICATION.

To the Editor of THE MEDICAL NEWS.

SIR: In the number of your journal just received, under the heading of "New Inventions," is an article and woodcut describing a surgical needle supposed to be a new device. Doubtless it is original with the author, Dr. C. M. Wilson, nevertheless it is not new, as the author supposes. I saw and used this needle in operations on the cadaver in Vienna, Austria, in 1881. Its application in trachelorrhaphy is, so far as I know, entirely original with Dr. Wilson. I saw it used in Vienna to pass the sutures in vesico-vaginal fistula operations. Dr. Wilson apparently has always been able to pass the needle through both sides of the cervix laceration, to thread it, and in withdrawing it to leave the suture in position. This it is not always possible to do in using the needle for vesico-vaginal fistula operations, or in operating for a cleft in the soft palate. Should an operator find it difficult to penetrate both sides of a laceration anywhere, the difficulty is readily overcome in the following manner:

Thread both the right- and left-handed needle with a long thread, the middle of the thread resting in the eyelet. Take up the right-handed needle, grasping the double thread in the hand also. Pass the needle through one side of the laceration or fistulous opening. The eyelet with the thread in it is now in view. Slip a blunt tenaculum between one of the threads and the shaft of the needle. Hold to the thread and withdraw the needle. With the tenaculum pull the loop toward you a short distance and drop it. Lay aside the tenaculum. Take up the left-handed needle, grasping the double thread in the hand also. Pass the needle through the opposite side of the laceration or fistulous opening, the eyelet with the thread is now in view. Slip a blunt tenaculum between one of the threads and the shaft of the needle. Hold to the thread and withdraw the needle. With the tenaculum draw the loop entirely out of the vagina. You now have each lip secured with a double thread, and the two loops are between the edges to be approximated. With the scissors cut the last loop. Seize one-half the thread and draw it out, being careful to leave the other half in. Take the end of the one left and draw it through the remaining loop. Now draw upon the free ends of the looped thread and the single thread is pulled into place ready to be tied. Either of the needles may be threaded with fine, strong thread, both ends being left long, and thus passed through both lips; the loop may then be secured with the blunt tenaculum, and be drawn toward the operator while the needle is withdrawn. Into the loop may be hooked a silver wire suture, which is quickly drawn into place. If the needle be threaded with a suture of silk, or silkworm gut and passed, the suture may be taken out of the eye of the needle with the blunt tenaculum, and while it is held by a pair of dressing forceps the needle may be withdrawn, and the suture can then be pulled further into place for tying.

In operations on the soft palate the needle should be placed at an obtuse angle to the shaft.

I believe the introduction of this needle into trachelorrhaphy by Dr. Wilson is a good thing, for which he deserves our thanks.

Very respectfully yours,
R. S. SUTTON, M.D.

419 PENN AVENUE, PITTSBURG, PA.,
November 22, 1884.

NOT A NOVELTY.

To the Editor of THE MEDICAL NEWS.

SIR: In your issue of to-day I note an article headed "A New Cervical Needle," with an illustration representing the instrument. I cannot, however, see that this differs in any material respect from that depicted and described in Agnew's *Surgery* (Vol. ii. p. 976, Fig. 1649), as used in the operation for cleft palate. And but for the smaller size and sharper curve of the needle part, it is exactly the same as the needle in common use for suturing the lacerated perineum (see Gemrig's Catalogue of Surgical Instruments, p. 104, Pl. 45, Fig. 4). The latter instrument (often spoken of as Baker Brown's needle, although the one figured in his book has no double curve) I have known and used for many years; and it does not seem to me that a claim of novelty can be properly set up for an article on identically the same principle.

Respectfully yours,
JOHN H. PACKARD, M.D.

PHILADELPHIA, Nov. 22, 1884.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 18 TO NOVEMBER 24, 1884.

MCKEE, JAMES C., *Major and Surgeon.*—Leave of absence extended one month.—*S. O. 273, A. G. O.*, November 20, 1884.

GODDARD, C. E., *Major and Surgeon.*—Assigned to duty at Fort Yates, D. T.—*S. O. 138, Department of Dakota*, November 15, 1884.

COWDUY, S. G., *Captain and Assistant Surgeon.*—Granted leave of absence for one month.—*S. O. 237, Department of the East*, November 17, 1884.

TAYLOR, A. W., *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Fort Omaha, Neb., and ordered for duty at Fort D. A. Russell, Wyoming Territory.—*S. O. 101, Department of the Platte*, November 19, 1884.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

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ORIGINAL LECTURES.

THE NERVE-COUNTERFEITS OF UTERINE DISEASES.

A Clinical Lecture delivered in the Hospital of the University of Pennsylvania.

BY WILLIAM GOODELL, M.D.,
PROFESSOR OF CLINICAL GYNECOLOGY IN THE UNIVERSITY OF PENNSYLVANIA.

GENTLEMEN: The crying medical error of the day is, in my opinion, the mistaking of nerve-disease for womb-disease. From this widespread delusion it has come to pass that no organ in the human body is so over-treated and, consequently, so maltreated as the womb. Fine lesions of nerve-ganglia are hard to make out, however exacting their symptoms. Take, for instance, insanity or epilepsy; even in the dead-room their lesions often elude our instruments of precision. But the womb, unfortunately, being reachable, seeable, and directly treatable, is charged with almost all the ills that female flesh is heir to; and it is too often made the scapegoat for headaches and nape-aches, for spine-aches and backaches, and for various other so-called uterine symptoms which may be due solely to nerve-exhaustion, or malnutrition of nerve-centres, and not to reflex action from some real or supposed uterine disorder. Then, again, misled by traditional teaching, by such a name as woman (womb-man), by such a misnomer as hysteria (womb-disease), we yoke our practice to theory. So whenever we find a train of *hysterical* symptoms associated with a disordered or a displaced womb in a *womb-man*, we jump with doubled energy to the conclusion that the uterine lesion is not a symptom, or a sequence, or a coincidence, but the factor, and at once proceed to treat it accordingly. Then, again, forgetful that the imponderables are great forces in nature, that a single mental stimulus to unstable nerve-molecules will awaken many reflexes, we overlook the tyranny of woman's oversensitive organization, and underrate the influence of nerve perturbations or of psychical disturbances.

To substantiate these assertions, let me recall a case to your memory: Six weeks ago to-day I brought before you a very helpless invalid, who, accompanied by her husband and her sister, had just arrived from one of our Southern States after a long journey made on a litter in a baggage-car. She was a large, stout, and well-conditioned woman, forty-two years of age, and the mother of several children. Eleven years ago she gave birth to her youngest child. The labor was easy, but her getting up was slow, and when she tried to walk she suffered so much pain that before long she took to her bed, where she had stayed ever since, growing more distressed and more helpless every day. During all this time she had, to use her own language, "been doctored for womb-disease," but without benefit. She could lie in only one position, viz., partly on her right side and partly on her back, with her knees drawn up and her hips higher than her head. To keep this unnatural and ludicrous position, a large folded blanket and half a dozen pillows were needed. Then she had a thick pad placed between her knees and a perforated one under her right ear. In addition, "to keep her womb up," she wore a formidable looking abdominal brace. Her lower limbs were, she alleged, paralyzed, and, in fact, as you will remember, I thrust a pin several times into them below the knee without inflicting the slightest pain. Her appetite was poor, her bowels extremely costive, her monthly periods regular, but painful and somewhat free. She was wakeful at night, full of aches and pains, and had an irritable bladder, which kept her and her nurse pretty busy. Her feet and hands were always cold, and she complained of being always very tired. A more helpless creature could hardly be met with; a more padded and bolstered and upholstered one I never saw before.

But the case turned out more promising than it at first looked. As soon as I had laid eyes on the woman, and had asked her a few question, I felt sure that her mind was more diseased than her body, and that she was, in short, hysterical. These conclusions were arrived at for the following reasons: *Firstly*, she was too well nourished for a person with any serious uterine disease. *Secondly*, her skin, excepting that on her legs, was so over-sensitive that she would not let me palpate her abdomen, or make a vaginal examination. *Thirdly*, there was a suspicious capriciousness about her pains; they were too irregular and shifting for fixed organic disease. *Fourthly*, there was an indescribable affectation of suffering, an exaggerated self-consciousness which made her enjoy the description of her aches and pains. *Fifthly*, she wore the tell-tale hysterical mask; that is to say, while she spoke of her sufferings in language and tones consonant with their alleged severity, there was no play of the features, no movement of the facial muscles; her face was as blank and unmeaning as a mask. Lastly, her history revealed two nerve-shocks: the sudden death of one of her children just before her lying-in, and a family trouble—a skeleton in the closet—which had worried and fretted her for many long years.

You will remember that, in order to make a thorough diagnosis, I was obliged to put her under ether, and the following information was gleaned: The vagina was flabby and lax; the womb perfectly movable, but somewhat lower than it should be; the os externum slightly torn, but not enough to warrant an operation. The sound gave a measurement of barely three inches, and there were the usual signs of uterine catarrh. Now, such lesions should not make a woman bedfast. Many a poor woman is earning her daily bread by hard labor, and many a lady is faithfully discharging her social and domestic duties, although handicapped by reproductive organs in a far worse plight than our patient's. So I told you, then and there, that she was bedridden from her brain and not from her womb; and that I should pay very little attention to the latter organ, which had already been overtreated.

To-day, after the lapse of six weeks, I, with no little pride, bring her again before you, to show you the result of the treatment. The uterine lesions are not much better, and they probably never will be until the change-of-life; yet her pads, and pillows, and bolsters, have been laid aside, and her abdominal brace is no longer in use. Her last period was still free, but without pain. She moves about, as you see, without difficulty. She goes upstairs and downstairs all over this large building, and she has walked several of our long squares in the streets. Yesterday, she rode in the street-cars to a dentist, two miles away, and had six fangs out. To-morrow, she starts alone for home. Now, what has brought about this marvellous change? And why is she so well, when her uterine troubles still exist? These are the questions which I know you are asking yourselves, and I shall try to answer them as soon as she is out of hearing.

Before making this case the text of my lecture to-day, let me briefly allude to another one which I have lately treated in my private hospital, and which is a sample of many others. A very weak and emaciated lady, sent to me for uterine trouble, had ptosis of the right eyelid, complete paralysis of the lower extremities, and such anæsthesia in them that the prick of a pin could not be felt. She also had irritable bladder, weariness, wakefulness, costiveness, and cold feet. Further, she had a retroversion of a hypertrophied womb, which had been very ably treated by her physician. These uterine lesions had drawn him off the scent, and had led him to the belief that they alone were the causes of her ill-health. But my reasoning was this: Why, if so, is she still helpless when the womb is kept in place by the pessary which she is wearing? I soon found out the true cause, which was mental distress at the engagement of her daughter with an unsuitable person. Without local treatment of any importance, and simply by moral and constitutional remedies, she left me in seven weeks' time, not cured—for she did not stay with me long enough—but so immensely improved that the ptosis, the paralysis, and the loss of sensation had disappeared; the constitutional symptoms had vanished; she had gained much flesh, and was able to walk about with the aid of a cane. Of course, the cause of her worry was not removed, but the effect of the treatment made her better able to bear it, and not to exaggerate it.

I know of another sofa-ridden lady, of wealth, who had for many years been locally treated by some of our best gynecologists. She was put on her feet and made well by a family quarrel resulting in a prolonged law-suit. These are the cases which are so constantly being cured by mesmerists and itinerants, and by faith and pilgrimages. I could give you the history of other such bedridden cases sent to me for uterine treatment which, without any such treatment whatever, were restored to health. Many cases I have had which, of course, needed, in addition, some local treatment; but what I wish strongly to impress upon you to-day is that, in the vast majority of bedridden or of sofa-ridden women, it is not so much any existing uterine trouble that puts them on their backs as it is nerve-exhaustion from some nerve-shock. For, in these days of mental overstrain, nerve-exhaustion, or neurasthenia, as it is technically called, is a most common disorder in our over-taught, over-sensitive, and over-sedentary women. It manifests itself by hysteria; by spinal irritation; by a lack of nerve-coördination, and by a crowd of reflex symptoms, among which those of a uterine complexion often overshadow, and indeed outlast, all the others.

I have not the time to go into a study of that marvellous kinship which exists between mind and matter; but let me draw this too common picture from life: A young girl who entered puberty in blooming health, with red cheeks and without an ache, is overtasked and overtaxed at school, and her health begins to fail. She loses her appetite, lies awake at night, and grows pale and weak. She has cold feet, blue finger-nails, and perhaps complains of inframammary and ovarian pains. Headache and backache, and spine-ache and an oppressive sense of exhaustion, distress her. Her monthly periods, hitherto without suffering, now begin to annoy her more and more, until they become extremely painful, and at these times dark circles appear under her eyes. Her linen is stained by a leucorrhœa, and bladder troubles soon set in. She is wearied beyond measure by the slightest mental or physical exertion; the short visit from a friend will upset her for the rest of the day; a grasshopper is a burden to her, and she finally becomes very nervous or hysterical. Now, very unfortunately, the idea attached to this group of symptoms is that the womb is at fault. A moral rape is, therefore, committed by a digital or a speculum examination, and two lesions will be found—firstly, as a matter of course, the natural virginal anteflexion, and, secondly, a slight uterine catarrh. These are at once seized upon as the prime factors, and she is accordingly subjected to a painful, an unnerving, and a humiliating treatment for the flexion and the endometritis. Unimproved, she drags herself from one consulting-room to another, until finally, in despair, she settles down to a sofa in a darkened room and becomes the spoiled pet, or the vampire of the family.

Now, Gentlemen, ten to one—yes, a hundred to one, for I speak from a large experience—this overwearied, brain-crammed girl needs a uterine treatment no more than you need one. Her anteflexion is natural; her leucorrhœa merely a passing symptom. She has simply jaded nerves,—worn-out ganglia, and, unless they are treated, and in the way that I shall presently indicate, she is probably doomed to hopeless invalidism.

You will naturally ask me, What is the explanation of such misleading symptoms? What means this headache, this backache, these uterine and vesical symptoms? What is the interpretation of these counterfeits of organic mischief? The precise pathology I cannot pretend to give, for the mystery of life has never been solved, and cerebration and innervation are still the riddles of the sphinx; but I take it to be essentially malnutrition of nerve-centres followed by disturbances in the circulation of the nerve-fluid, and consequently of the blood. The nerve-centres of this brain-crammed girl, or of the worrying, fretting, and grieving women, to whose cases I have just referred, were unable to bear the strain thrown on them, and they broke down. But jaded nerve-centres make poor blood and faulty circulation, and from these come cerebral and spinal irritation and general exhaustion.

Let me pursue the inquiry further, premising that the unknowable can be described only by terms of the knowable. The vaso-motor system of nerves controls the calibre of the bloodvessels. It contracts them and it dilates them. On the equilibrium of these two movements of ebb and flow depends that adjustment of wear and repair which means health. On the other hand, disturbance, in the relation of these two movements is followed by disturbance in the circulation of the blood—circulatory disturbances which consist of local anæmias and local hyperæmias. For instance, what is the blush of shame, but a temporary loss of control over the vaso-motor nerves by which the bloodvessels are dilated—capillary hyperæmia. What is the pallor of fear but another form of loss of nerve-control of greater energy by which the bloodvessels are constringed—capillary anæmia. Thus shame makes us warm, but we shiver when afraid. Imagine now a woman always disturbed by one or the other of these emotions—shame and fear—and you have essentially a very nervous or an hysterical woman. For when all control over vaso-constrictors and vaso-dilators is lost, as I assume it to be in hysterical and nervous women, the same kind of blushing and blanching which we see on the skin is perpetually going on in the internal organs. Hence, the stable and unstable congestions and anæmias of certain localities; hence, the flashes of heat and the shivers of cold which these cases complain of; and from these alternate conditions come cerebral and spinal irritation, with headache and backache, and utter weariness. The brain blushes, and headache and wakefulness ensue; it blanches, and the patient is drowsy and heavy with cervical exhaustion. The stomach blushes or blanches, and symptoms in accordance with each condition arise; hence we get gastralgia, flatulence, capricious appetite, and nervous dyspepsia.

Some organs blush more than they blanch. Thus hyperæmia, or passive congestion of the lower portion of the spine is often constant, causing backache and loin-ache. The womb and its annexes, being exacting organs in menstrual life, bear the brunt of the circulatory disturbances, and are usually blushing. The consequence is swollen, tender, and prolapsed ovaries, and congested wombs, with flexions and dislocations, with menorrhagia and leucorrhœa. But they also blanch, and amenorrhœa or scant menstruation results. Also, active neurosis of the uterine group of nerves takes place, with either local or reflex manifestations, which mimic grave structural lesions of the womb itself or of distant organs. From increased reflex irritability comes spasm of the circular fibres of the cervical canal, causing dysmenorrhœa. All the sphincter muscles are liable to spasmodic contraction, and thus arise such mimicries of organic injury, as loss of voice, dyspnœa, palpitations of the heart, irritable bladder, painful rectum, and difficulty in swallowing, in defecating, or in urinating. Thus are explainable those puzzling cases in which the womb is in its natural position, and of its natural size, in which the sound readily enters, in which no lesion is appreciable, and yet painful menstruation, and backache, and bearing down, and weariness are complained of. So can we explain many cases of neuralgic ovaries. In these diseases structural changes cannot always be found, and yet they are so stubborn as to be shunned by all physicians.

Sometimes there will exist a concurrence of essential and primary uterine disease, with secondary nerve-exhaustion, the former begetting the latter. We see this often in women hurt and worn-out by child-bearing, or in women exhausted by sexual excess. In these cases there will be an exaggeration of the uterine symptoms, a localized hysteria. There will also be very commonly an hysterical bladder, mimicking vesical catarrh, and even stone; sometimes, indeed, a hysterical coccyx aping every symptom of traumatic coccygodynia. For hysteria is liable to billet itself upon maimed portions of the body, and especially on those organs—such as the womb and bladder—which hold an emotional kinship with the brain. This kinship between the brain and the bladder some of you will keenly appreciate on examination-day. Then, again, from the hyperæmia and dysmenorrhœa, developed by the neurosis, we may get secondary structural lesions, such as metritis, endometritis, and displacement, which may need a local treatment beside the general one. But apart from these cases and those which clearly start from antecedent mischief to the reproductive apparatus, no good comes from local treatment. Nor do they respond much better to ordinary therapeutic measures. They stand, as a class, by themselves and need a special treatment, which I shall soon describe to you.

Manifold are the causes of nerve-exhaustion and of its close ally, hysteria, with its mimicries and counterfeited symptoms. The most common factors are those which produce fret, worry, or grief; in other words, mental wear and tear. These are: crosses in love, disappointed affections, illmated marriages, skeletons in the closet, reverses of fortune, mental over-strain, the prolonged nursing of near and dear friends, and the loss of them by death. Absurd as it may seem, three of my patients were wholly prostrated by the building and furnishing of their houses; while one of my patients invariably takes to her bed when she dismisses a servant and engages another. Few school-teachers wholly escape this form of disease, and many of their pupils suffer from the brain-cramming, and the buckram proprieties of the boarding-school. The cause of break-down in the health of several of my patients was remorse at having used means to prevent conception, and, in one, at having resorted to criminal abortion. The climacteric with its nerve perturbations is responsible for causing this disease, and so also are sterility and sexual excess. The over-worked and the under-fed also suffer; but it is not over-work that breaks down the nervous system so much as the causes of over-work—the failures and disappointments of life, its carks and its cares. Life is big with shattered hopes and wrecked ambitions, and life is, therefore, full of shattered nerves.

What are the symptoms of nerve-exhaustion? Their name is legion, but the most common ones are those which tradition has labelled as the symptoms of womb disease, such as difficult locomotion and a bearing down feeling, headache and backache, pain in the left ovary, and spinal irritation, weariness and wakefulness, cold feet, and an irritable bladder. The sense of exhaustion is a remarkable one; the patient is always tired; she wakes up tired, she passes the day tired, and she goes to bed tired. Other symptoms not quite so common are the cerebral ones, such as low spirits, bad dreams, nightmares, and night-terrors; explosive sounds in the head, a loss of memory, the fear of impending insanity, the dread of being left alone, or of being in a crowd; inability to protrude the tongue, weakness of vision, morbid keenness of smell or of taste, and spinal chills and locking of the jaws produced by the lower or the tremulous notes of the organ. This last symptom occurred in several of my patients, and prevented them from going to church. The uterine reflexes are: uterine, pelvic, and ovarian aches, pendulum pains swinging from one ovary to the other, and a feeling that the abdomen needs support, which is often given by pressure with the hands. The abdominal organs display their interest in the general neurosis by flatulence, by the swallowing of wind like a cribbing horse, and the belching of it in large and noisy volumes, by nervous dyspepsia, nausea, or vomiting, by either diarrhœa or costiveness, usually the latter; and by great exhaustion after a movement of the bowels. One of my patients had, to her great mortification, an urgent movement of the bowels whenever she received a letter from her husband; another one, when the door-bell rang, or when a friend called on her. Some patients are annoyed by clammy hands and feet, or weakened by profuse sweats, often unilateral. Others are frightened by cramps, or by tinglings, by loss of sensation, or by numbness in the extremities, which are deemed the percursors of paralysis. Abnormalities in the sexual feeling are not uncommon. In some all desire is absent, or coiton is painful; in others the sexual feeling is increased; in yet others it is urgent, but cannot be gratified; in a few the dreams are erotic.

For the treatment of this disease we are indebted wholly to one of our Trustees, Dr. S. Weir Mitchell, and to him we owe a large debt of gratitude for teaching us how to cure cases which had hitherto been the opprobrium of the profession. In the treatment there are five ends to be secured—nutrition, sleep, rest of body and of mind, freedom from pain, and an equable circulation.

The question of nutrition is an important one, because these women are either wholly without appetite, or they reject wholesome food. Repair not equalling wear, the starved brain cannot repose, and the starving nerves clamor. By beginning the treatment with iron, with malt, and with a diet of skimmed milk, usually, after a week's time, the patient begins to crave solid food. Fixed rations of wholesome food at fixed hours are now given, together with as much new milk between times as the patient can possibly digest, and it is wonderful how much food a delicate woman can soon dispose of. A goblet of milk is always given at bedtime, so as to distract to the stomach the morbid self-attention of the brain. Also for its soothing and hygienic effects the patient's body is bathed every day by the nurse. By these simple measures fat is rapidly made, sleep is induced, and nerve pains are allayed, in invalids who have been reduced to the last degree of emaciation, and who have hitherto resisted every kind of treatment, even a local one for supposed or for real uterine troubles.

Seclusion is indispensable, first to free the mind from care, and next, to remove the invalid from the injurious home environment. There, surrounded by an atmosphere of injudicious sympathy, her whims are pampered into an unhealthy importance, and her slightest caprices anticipated. There, her counterfeits of uterine disease, her mimicries of organic hurt, are nursed into realities, and there she rules as an autocrat. From this exalted position she must be dethroned. Again, seclusion puts the patient wholly under the control of her physician, a matter of vital importance, for there are no hard and fast rules of treatment for restoring these women to health. Each case stands by itself; each case is a study; each has an individuality to which the mental treatment must be adapted, and the personal magnetism of the physician can alone supply the missing nerve link between will and action. To maintain the needful authority over his patient requires the greatest tact, the greatest alertness on the part of the physician. Sometimes he must soothe, and praise, and comfort. Sometimes, imitating the example of the Good Interpreter, who first pulled Christian out of the Slough of Despond and then scourged him well for getting in, the physician must rescue his patient from a relapse and then scold her for it. When the character is passive and the will limp the task is easy. Far otherwise is it with strong wills, with the wilful, when a bright and intellectual woman, as she too often is for my comfort, chooses from the start to set herself in battle array. The treatment then becomes a trial for mastery; it is brains pitted against brains, and the physician has to put more and more of himself into the encounter, until he begins to doubt very much whether he has any *more* left. Often have I lain awake wondering what next was to be done to save myself from the humiliation of a defeat or of a drawn battle. Often, when crossing the threshold of some room in my private hospital, have I, with my mind's eye, seen my patient draw her rapier and stand on guard, ready to parry or to thrust. Discipline in the end usually triumphs; but the wear and tear of such a case is telling on the physician. Knowing these facts from personal experience, and acting upon them, I have generally treated my patients away from home. Sometimes I have compromised the matter by putting the patient and her nurse in a third-story room at home, but, as it were, under lock and key.

The therapeutic effects of massage and of electricity on the circulation are very striking in nerve-exhaustion; but, while very analogous in their action, they need a somewhat extended explanation. The four principal movements of massage are:

1. Stroking, friction, or surface rubbing.
2. Kneading, or deep rubbing.
3. Tapping, or percussion.
4. Passive and active motion, by movements of flexion, abduction, adduction, and rotation, the patient either being passive or resisting.

The first two pleasantly stimulate into action the vaso-motor nerves, and the terminal filaments of cutaneous nerves. They also exercise the muscles without volition, and, therefore, without expenditure of nerve-force. Electricity does the same thing. Now this is a very important item in the treatment, for all voluntary muscle-work is nerve-work, and the nerve-capital in these cases is too small to be drawn upon. Percussion made by quick strokes with the ulnar margin of the palm, or with a wet towel, or with two rubber balls mounted on whalebone stems, temporarily stuns the nerves; and these surprises effect molecular changes, by which lax fibre and tissues of loose consistency are strengthened. Again, both massage and electricity raise the body temperature, stimulate the nervous system, promote the secretions, and increase the peristaltic action of the bowels. Also the new and sharp impressions of electricity break up, as Anstie has shown, the mental attitude of morbid concentration on the hysterical or the pseudo-neuralgic pains.

Thus these two agents not only act as antidotes to the evils which come of prolonged rest, but they meet several important indications. Further, the assumption having been made that in these cases there is disturbed circulation as well as enfeebled innervation, it follows that when a pathological process is set up by an increased flux of blood to an organ, whatever tends to lessen the amount of blood flowing to it tends also to restore it to health. Now, both electricity and massage increase surface circulation in the large vascular district of the skin; they flush its shallow arterioles. Again, by irritation of vaso-motor nerves, they also produce reflex changes in the circulation of deeper parts. But increased capacity in one vascular district causes lessened capacity in another. Hence the flux of blood is diverted from the blushing, or congested organ, and its circulation is lessened. Causing in this manner anæmia of the brain, sittings of massage or of electricity are often followed by sleep.

In all my cases the interrupted current was most commonly used, the galvanic current being reserved for stubborn and deep-seated pains. In a large proportion of these cases there was more or less of anæsthesia in one leg—usually the left—accompanied by burning and cutting pains radiating from the corresponding ovary. Faradic excitability was at first always enfeebled on the affected side, but after several applications the muscles began to respond to the current, and motility was restored. In not a single instance did these nerve lesions last long. The ovaralgia was, however, not so readily overcome, but it was very interesting to watch how surely it was rubbed out and faradized out—in fact, extinguished.

The foregoing treatment was the one to which our patient of to-day was subjected, and to which she so marvellously responded. Of local applications she had but four, and these were made more for the moral effect than for any hygienic purpose.

This treatment answers admirably also for the spurious womb-ails and nerve perturbations of the climacteric. Nothing so surely controls the heats and chills, the shiverings and sweatings, the nerve-tinglings and emotional explosions, so common at the change-of-life. Of course, it would be unreasonable to suppose that all local treatment is to be excluded from the Rest-cure, as it is technically called. Putting a woman to bed cannot cure a torn cervix, or a cervical stenosis, or an acutely bent womb. But, what I claim for it is, that it has in my hands cured granular erosion, menorrhagia, intermenstrual ovaralgia, prolapsed ovaries, coccygodynia, and most of the diseases arising from passive congestion. It certainly is a specific for amenorrhœa, or for scant menstruation, and also for dysmenorrhœa when not dependent upon a sheerly mechanical cause. While in the treatment of the reflex uterine symptoms of nerve-exhaustion, nothing can compete with it. The lesson, then, which you will take home with you to-day is, that urgent uterine symptoms are not always evoked by uterine disease, and that there exist many nerve-counterfeits of uterine disease.

ORIGINAL ARTICLES.

A CASE OF SUBSPINOUS DISLOCATION OF THE HUMERUS. REDUCTION ON THE FIFTY-NINTH DAY.

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N. O., white, aged 16, was admitted to the University Hospital on April 7, 1884, with the following history: On February 12th was thrown from a horse and received an injury to the right shoulder. He does not know exactly how he fell, but thinks he caught on his hands. The physician who saw him diagnosticated a dislocation of the shoulder and reduced it. (?) At the end of six weeks the patient's arm was immovable, and he applied to Dr. Riggs, of Howard County, who transferred him to the care of Dr. William J. Jones, of Baltimore, who recognized a subspinous dislocation of the shoulder, and attempted reduction under chloroform. Having failed, he recommended the patient to enter the hospital.

The diagnosis made by Dr. Jones was readily verified. The shoulder was swollen and painful, and there was extensive ecchymosis in the axilla and along the side adjacent. The acromion and coracoid processes were quite prominent; the head of the humerus could be felt resting in the subspinous fossa of the scapula, below the juncture of the middle, with the outer third of the spine. The line of the humerus passed upwards and backwards to the prominence due to the head. The bone was somewhat rotated inwards, the forearm resting obliquely across the belly. The patient could raise the hand no higher than about to the nipple, and could not rotate the humerus. The parts were firmly adherent to each other, although slight rotation could be effected by the use of some force, and the head of the humerus could be seen to roll under the skin A distinct sulcus was visible between the prominences due to the head and the acromion process. The shoulder was ordered to be well shampooed with Stokes's liniment—twice daily.

On April 11th, in the presence of my colleague, Prof. L. McL. Tiffany, and Dr. Geo. Ellis Porter, of Lonaconing, Md., chloroform was administered and reduction attempted. The arm was first moved in various directions with the intention of breaking up the adhesions, which were found to be very strong. Later, Sir Astley Cooper's manipulation—elevation and external rotation—was tried, but in vain. Then traction was made in all proper directions. Gradually the head of the humerus was made to approach the glenoid fossa, and finally to come partly under the acromion. It was found that now the hand would rest on the opposite shoulder, with the arm pressed to the side. The contour of the shoulder was, however, not normal. The prominence of the acromion and coracoid had disappeared, the sulcus between the head of the humerus and acromion became obliterated, but there was too much outward and backward prominence to the head of the bone. We concluded that the presence of adventitious tissue between the humerus and glenoid fossa prevented absolute reposition, and so the arm was strapped to the side, with the hand on the opposite shoulder, and a continuance of the shampooing with liniment ordered.

On the next day there was considerable swelling of the shoulder noted, but the patient suffered little or no pain. On April 15th the boy displayed considerable freedom of movement and expressed himself as feeling better than he had felt since the accident. He could voluntarily place the hand of the affected side on the opposite shoulder without aid from his other hand, though the effort caused him some difficulty. He could perform no rotatory movements. He could not be induced to remain longer in the hospital, and was discharged with instructions to keep his arm bandaged to his side for a week or so, and to return if he failed to improve.

I heard indirectly from the patient from time to time, and finally had the opportunity, on October 9th, to study his condition. My note is as follows: There is considerable emaciation in the neighborhood of the shoulder, especially below the spine of the scapula. The infraspinous fossa seems to contain no muscle. The supraspinous fossa is about as full as the one on the opposite side. The head of humerus is immediately under the acromion process, though placed somewhat posteriorly as compared to the opposite side. The coracoid process is rather prominent —a condition at least partially due to atrophy of the pectoralis major and deltoid. He can place right hand on left shoulder, keeping the arm against the body, with perfect ease; and can place hand on head, with effort. There is but slight motion between the head of humerus and the scapula, the rotatory movement being almost nil. He is able to do farm work and make full wages. He reports his shoulder as constantly improving, though I doubt if he will ever regain the power of rotation.

This reduction was effected on the fifty-ninth day after the dislocation occurred, and the amount of usefulness restored to the arm, after so long a time, is rather remarkable. According to Prof. F. H. Hamilton's researches, there is only one other case on record in which reduction was effected after so long a time—that of Sédillot, who reduced a luxation of this kind one hundred and fifteen days after the occurrence.

The lesion presents ordinarily no especial difficulties in diagnosis or treatment. Its rarity, however, and the length of time which in my case elapsed before treatment was instituted, make it, I hope, sufficiently interesting to be placed on record.

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OBSERVATIONS UPON THE HYDRO-CHLORATE OF COCAINE, WITH SOME SPECIAL STUDIES UPON ITS EFFECT ON ACCOMMODATION.

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THE recent discovery of unsuspected and highly valuable properties in the alkaloid of the erythroxylon coca, and the subsequent very numerous and interesting observations and experiments of American surgeons and ophthalmologists, have speedily made widely known to the general profession the name and claims of the hydrochlorate of cocaine.

The physiological action of drugs is always an interesting study, fraught with many valuable hints, but the practitioner demands a thorough testing, clinically, of every agent he is asked to adopt and especially of one that claims to be a specific.

Observations, therefore, made upon the action of this new remedy at a clinic having a large daily attendance might not be uninteresting or uninstructive, and will also aid in corroborating, adding to and modifying statements advanced by numerous observers concerning its action.

The following summaries of cases are taken from the records of Dr. Robert Sattler's Eye and Ear Clinic held at the Miami Medical College of Cincinnati:

A careful personal study of cases and of the notes of those of his clinical assistants, to whom he assigned the duty of minutely observing the effect of the new anæsthetic when applied to the pathological or physiological eye, has led Dr. Sattler to the following generalization of results, in the main supporting the statements of other observers, but arrived at independently:

The preparation used was a five per cent. solution of cocaine hydrochlorate.

I. The instillation is followed in every case by more or less smarting and burning, which soon gives way to a feeling of coolness.

II. In from three to fifteen minutes impairment of the sensibility of the cornea, followed by a period varying in duration during which all reflex irritability is lost or temporarily abolished and anæsthesia of the anterior superficial structures of the eye appears complete. This period varies and averages about one hour and a quarter.

III. During this period all reflex irritability is lost. The cornea can be touched with unyielding substances, paper, wood, the point of a knife, etc., and active spasmodic movements of the eyelids or profuse lachrymation, the almost invariable concomitants of reflex action, are not observed.

When the non-cocainized eye is touched the blepharospasm and lachrymation are conspicuous, and afford the best illustration of the interruption of reflex movements in the fellow or cocainized eye.

IV. Transitory mydriasis variable in degree and duration. In eleven normal cases it was never complete or fixed; even with maximum dilatation, corresponding to the period of complete anæsthesia of the superficial structures, more or less response to light is observed.

The excursions of the pupil of the cocainized eye, the fellow eye securely closed, become more and more restricted, but response to light is never completely abolished.

The associated pupillary movement, the fellow eye uncovered, was not interrupted, but only modified in that the excursions were restricted. The movement of the iris of the cocainized eye was greater than when it was tested separately.

In monocular accommodation, the excursions of the pupil in response to the accommodative act are more restricted, and for a short period, corresponding to the stage of most marked anæsthesia, may be interrupted. In binocular accommodation, however, one eye cocainized, the response is more active, but persistent effort at reading again results in more marked dilatation and clonic spasms.

V. A peculiar pallor of the conjunctiva and whiteness of the sclera, together with contraction or diminished prominence of the bloodvessels of the conjunctiva.

VI. The accommodation of the cocainized eye is *sometimes* modified. This modification, when it occurs, is a recession of the near-point. It is not constant, occurring in something less than two-thirds of the cases. A proof that the accommodation of the eye is not seriously affected is the absence of all inconvenience from the dilatation in walking, projection, etc.

VII. Ophthalmoscopic examination revealed nothing.

For convenience of study, the observed cases may be divided into:

1st. Those in which the effect of the drug was noted in the physiological eye.

2d. Those in which its analgesic effects were noted in cases of trauma, inflammation, etc.

3d. Those in which its anæsthetic properties were tested in painful operations.

The physiological eye. Five per cent. and two per cent. solutions of the hydrochlorate of cocaine were used. Certain constant effects follow the use of the drug, such as anæsthesia corneæ, mydriasis, blanching of the sclera, and dryness of the conjunctiva.

The anæsthesia comes on in from three to fifteen minutes after the first instillation, the period of complete anæsthesia *preceding* the period of maximum dilatation of the pupil.

Its duration is variable, the shortest noted being twenty-five minutes, the longest two hours and a half—the average of eleven cases being one hour and fifteen minutes.

Mydriasis comes on in from eight to twelve minutes after the first instillation. Its duration is exceedingly variable. In one case it had passed away within an hour. In the greater number of cases it lasts about twelve hours, and in some few it still existed, in no slight degree, after the lapse of twenty-four hours.

Blanching of the sclera and contraction of the superficial vessels were very noticeable in all the cases.

In regard to the effect produced upon accommodation, the observations made at this clinic differ in some respects from the findings reported by other observers. It has been the universal statement that accommodation was to a greater or less degree affected in all cases, the near-point receding to a noticeable degree.

Careful observation in eleven cases has given us the following result:

In *five* cases—one myope, æt. 46; one hyperope, æt. 24; three emmetropes, æt. 28, 26, and 22—there was *absolutely no disturbance of accommodation.* In one of these cases the cocaine had been instilled into both eyes.

In *four* cases—one hyperope, æt. 23; three emmetropes, æt. 25, 26, and 24—when an effort of accommodation was made, the near-point receded slightly, but *a few moments' effort could again restore distinct vision.*

In *three* cases—two hyperopes, æt. 24; one hyperopic astigmatic, æt. 23—accommodation was seriously disturbed, the near-point being noticeably removed beyond its usual position.

This disturbance of accommodation rarely lasts beyond an hour and a half. The effect of a two per cent. solution seems to be about one-third less than that of a five per cent.

The unanimity of other observers in declaring that the disturbance of accommodation is constant has urged us to more than usual care, and as an example of the points inquired into, and the minuteness of the observations, I submit the following notes of cases:

Case I.—Hyperopic astigmatic, 0.75 D., æt. 23. Instillations at 0, 5, and 10 minutes of a two per cent. solution into both eyes. Before instillation near-point = 4 inches. The sensibility of the cornea was diminished in five minutes, and completely abolished at the end of ten minutes, continuing in this condition, however, for only five minutes, at which time the sensibility began to return, being fully restored in forty minutes from the beginning of the experiment.

Dilatation of the pupil was first noticeable in five minutes. It had reached its maximum in fifteen minutes, at which point it remained for nearly two hours, when a slight and gradual decline was noticed. At the end of eight hours a noticeable mydriasis was still maintained. During the entire period the pupil yielded a decided though sluggish response to light. In seventeen minutes the near-point had receded an inch and a half. In half an hour it had yielded half an inch, and at the end of an hour it was again restored to four inches.

Case II.—Hyperope, 1 D., æt. 26. Before instillation near-point = 5 inches. Instillations of a two per cent. solution at 0, 5, and 10 minutes into both eyes. Mydriasis was first observed in seven minutes, reached its maximum in twenty-five minutes, and continued without diminution for eight hours, at which time it began to decline, and had disappeared by the fifteenth hour. The pupil responded sluggishly to light, and contraction was followed by clonic spasms. Anæsthesia appeared in five minutes, reached its maximum in thirteen minutes, continued unabated for forty minutes, and had disappeared within an hour. At no time did there appear a recession of the near-point, though, perhaps, the pupil hardly responded to the accommodative act with its normal extreme rapidity.

In one case, in which there was a high degree of myosis from the internal use of morphia, mydriasis was induced in twelve minutes by the local use of cocaine in the right eye. The contrast between the pupils of the two eyes remained marked for several hours.

The ability of cocaine to overcome the action of the myotics we find also in the following case, which had an exact counterpart:

CASE III.—Instillation into the left eye of a drop of a solution of eserine salicyl. (gr. j to ℥j). Twenty minutes thereafter pupil markedly contracted. Within the course of the next twenty minutes four instillations of the five per cent. solution of cocaine hydro-chlorate.

Ten minutes after the first instillation of the cocaine, and thirty minutes after the application of the eserine to the eye, there was complete corneal anæsthesia, though a strongly contracted pupil. In one hour from the instillation of the eserine, forty minutes after the first instillation of the cocaine, the pupils of the two eyes corresponded. In one hour and a half there was neither myosis, mydriasis, nor anæsthesia.

Cases of trauma and inflammation.—The great value of cocaine as an analgesic may be observed in the following cases:

CASE IV.—Male, æt. 28. Extensive burn of cornea and conjunctiva; foreign bodies under lid. Great pain, blepharospasm, and lachrymation. Three instillations of a five per cent. solution in the course of half an hour. Some pain on removal of foreign bodies; blepharospasm and lachrymation entirely suspended. On the two succeeding days, pain, which was not controlled by atropine, and blepharospasm were relieved by three instillations of the cocaine in the course of fifteen minutes.

CASE V.—Male, æt. 21. Conjunctivitis granulosa, subacute, keratitis superficialis; blepharospasm and lachrymation even when eye is covered with a shade. Two instillations of a five per cent. solution of cocaine in the course of five minutes, at the end of which pain, blepharospasm, and lachrymation had disappeared.

The following day the patient presented himself with the same symptoms, and, after two instillations in the course of ten minutes, was afforded the same relief from pain, spasm, and lachrymation as before.

CASES VI.-IX.—Four cases of conjunctivitis granulosa chronica. Eight minutes after the instillation of a five per cent. solution of muriate of cocaine, cupric sulphate in substance was applied to the diseased conjunctiva, which was allowed to remain unwashed. Patients all complained of an intense smarting in a very short time, and stated that the pain was worse than when the anæsthetic had not been used, but the copper washed from the conjunctiva after use.

CASES X.-XI.—Conjunctivitis granulosa. Eight minutes after instillation of a five per cent. solution of muriate of cocaine, a solution of argent. nitras (grs. vj to f℥j) was applied to the conjunctiva, which was allowed to remain unwashed. The results were identical with those of the four cases in which the cupric sulphate was used.

The application of the strong astringent in these cases was not followed by the immediate pain, spasm, and lachrymation which we usually observe, but for the space of at least one minute pain and spasm were absent and lachrymation suspended. The usual reflex symptoms then appeared, however, with increased intensity.

CASE XII.—Man, æt. 57. Indolent ulcer of the cornea. Three instillations of a two per cent. solution of muriate of cocaine in the course of twenty minutes. The ulcer, which was circular in shape, and measured fully three lines in diameter, was then touched with pure carbolic acid without the patient experiencing the slightest pain.

The following day the cauterization was repeated in the same manner and with the same results.

CASE XIII.—Man, æt. 69. Epithelioma at the outer canthus of the left eye. The ulcerated surface of the cancer was pencilled with a two per cent. solution of muriate of cocaine three times in the course of twenty minutes. A portion of the growth was then excised and the remainder scraped, the patient complaining of not a little pain.

As an anæsthetic in painful operations.—It is as a local anæsthetic that the muriate of cocaine appeals most strongly to the regard of the ophthalmic surgeon. As bearing upon this class of our studies, the following cases are submitted without further comment:

CASES XIV.-XVII.—Four tenotomies of the internal rectus for correction of strabismus convergens. In two cases three and in two cases four instillations of a five per cent. solution were made in the course of twenty minutes. In no case was there any reflex spasm of the orbicularis when the speculum was introduced, nor was any pain felt when the conjunctiva was seized by the forceps and cut with the scissors. In two cases the conjunctival wound was remarkably dry at first and for some little time was free from hemorrhage In all cases pain was felt when the tendon was cut.

CASES XVIII.-XIX.—Two cases of iridectomy. In one patient, a boy, æt. 8, three instillations, and in the other, a woman, æt. 40, four instillations of a five per cent. solution were resorted to in the course of fifteen minutes. In both cases, before the operation was begun, the anæsthesia corneæ was complete. In the case of the boy, there was marked blepharospasm upon the introduction of the speculum and pain was complained of throughout the entire operation. Immediately after the operation, anæsthesia corneæ was already partly lost. In the woman, there was no blepharospasm when the speculum was introduced, but pain was complained of at all subsequent stages of the operation, which was followed by violent and persistent nausea and vomiting, lasting for some thirty-five or forty minutes. At no time, however, was the heart's action depressed.

CASE XX.—Man, æt. 40; pterygium l. e. Five instillations of a five per cent. solution of muriate of cocaine, in the course of forty minutes, without informing the patient of its anæsthetic properties. The pterygium, a remarkably broad one, was removed *without the patient experiencing the slightest pain*, which was a great surprise to him, as he had anticipated a most painful operation. The introduction of the first suture toward the caruncle was not felt; but the second, near the cornea gave rise to some slight pain. The sclera was remarkably blanched and the conjunctival wound, though of considerable extent, was free from moisture and hemorrhage.

CASE XXI.—Small piece of coke imbedded deeply in left cornea. Eye very irritable, the result of repeated attempts at removal—four days' duration. Cocaine instilled; in five minutes patient expressed himself as relieved; in seven minutes foreign body was removed with speed without suffering.

Case XXII.—Imbedded foreign body of the cornea; marked circumcorneal injection, great photophobia and lachrymation. Four instillations of a five per cent. solution of cocaine were made in the course of twenty minutes. Circumcorneal injection greatly decreased and photophobia and lachrymation suspended. Foreign body was removed without the patient at all complaining of pain.

To sum up, then, the observations at this clinic, teach us that the hydro-chlorate of cocaine is of value to the ophthalmic surgeon:

1st. As an aid in the examination of painful affections of the superficial structures of the eye—*e.g.*, Keratitis and conjunctivitis phlyctænulosa, burns, abrasions, imbedded foreign bodies, etc., in that it controls spasm and lachrymation.

2d. In ophthalmoscopic examination—it having the great advantage over other mydriatics of not seriously, but very temporarily, and in many cases not at all, affecting accommodation.

3d. In operative interference as an anæsthetic. In the removal of imbedded foreign bodies of the cornea and conjunctiva, pingueculæ and pterygia, in cauterization of the cornea and conjunctiva, in the first steps of the operations for strabismus, enucleation, and, perhaps, in the slitting of the canaliculi. During the preliminary steps also of operations on the cornea—paracentesis and section for iridectomy or evacuation of the lens it is of paramount service in temporarily suspending all the reflex movements invariably attending the introduction of the speculum, fixation of the globe, etc.

ANTIPYRIN—THE NEW ANTIPYRITIC.

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The purpose of this article is to draw the attention of the profession to a new remedial agent, Antipyrin, which has riveted the attention of the most prominent German physicians during the past summer, and which appears destined as an antipyretic to take the place of quinine, salicylic acid, kaïrine, cold applications and baths. It has been my good fortune to witness personally a number of the observations reported, and I have deemed it desirable to inspire a desire among American physicians to use this remedy, as the experimental stage is evidently past and nothing but a large number of clinical observation is needed to define absolutely the range of its usefulness.

Antipyrin was first produced by Dr. Knorr, of Erlangen, from coal tar. Chemically it is a dimethyloxychinin, an alkaloid. In commerce it is in the form of a muriate. It is a grayish-white crystallized powder, with a weak, tarry odor and somewhat bitter, but supportable acrid taste. It is easily soluble in alcohol and in less than fifty per cent. of lukewarm water, from which it deposits but very slightly on cooling. Alkalies liberate it, iron chloride colors it reddish-brown, potassium chromate causes a yellow deposit, nitrous acid tinges it green, even in a solution of 1 to 10,000. Long exposure to light darkens the powder.

It is prepared (so far, in rather limited quantities) by Messrs. Meister, Lucius & Brüning, and Höchst, of Germany. Both preparation and chemical composition are a secret and protected by patent. The price is about half that of quinine (while the doses used are double).

A series of physiological experiments made by Prof. R. Demme, in Berne (*Fortschritte der Medicin*, Oct. 15, and Nov. 1, 1884), give the following results: Large single doses (for frogs, five grains; rabbits, twenty-two grains) cause death by paralysis in about half an hour, continued smaller doses (frogs half a grain, rabbits seven grains) induce changes in the central nervous system, first irritation, then paralysis. The initial irritation affects muscles as well as vessels (tetanic spasm, rise of blood-pressure). The paralysis is shown by loss of reflex sensibility and, in spite of integrity of the heart, decrease in blood-pressure. Antipyrin belongs therefore to the "general protoplasm poisons," affecting in large doses directly the muscular system (hence paralysis of the heart with the other muscles) and in small continued doses the nervous system. Hypodermic injection of caffein in lesser grades of poisoning will counteract the depression of the heart and nervous system. Demme's experiments do not demonstrate the limit of safety of administration, but lead him to the opinion that single doses larger than three grains up to the end of the first year, seven grains up to the fifth, thirty grains in adults, require careful watching such as is only possible in hospitals.

Antipyrin was first introduced into the practice of medicine by Prof. Filehne, of Erlangen (*Zeitschrift für klin. Med.*, vii. 6). Since then Merkel, Guttmann, Rank, Biermer, Demme, Naunyn, Pribram, Leichtenstern, Riegel, etc., have experimented with it. So far there is very little difference of opinion and all reports are favorable.

As a rule, it has been found that in high fevers it reduced the temperature without evil concomitant results. The fall begins one or two hours after ingestion of the remedy, and its effects last from seven to twenty hours. There is usually no undue perspiration and the rise of temperature following it is not accompanied by a chill, as frequently in kaïrine. Given with normal temperature, it rather raises it.

While this remedy reduces the temperature, it did not seem to shorten any of the diseases for which it was given, with exception of a case of acute rheumatism reported by Demme.

It was given, as a rule, according to the original advice of Filehne, in doses of 30 + 30 + 15 grains in intervals of one hour. The fall of temperature was usually from 3–5° F., sometimes considerably more. It fell after the first dose in the first hour one degree, the same after the second dose. The maximum decrease was usually obtained after five hours and frequently continued until the next day, when it gradually rose without chill.

The duration was found in the Hospital of Prof. Leichtenstern, at Cologne, to be as follows, viz.:

15 grains antipyrin per diem under 102° F. = 9.66 hrs.
15 " " " " 100° F. = 5.16 "
30 " " " " 102° F. = 10.83 "
30 " " " " 100° F. = 5.4 "
1 drachm " " " 102° F. = 14.12 "
1 " " " " 100° F. = 7. "
1½ " " " " 102° F. = 16.6 "
1½ " " " " 100° F. = 4.2 "

As the temperature fell, so fell pulse and respiration, keeping all their good qualities.

The first fall of temperature was sometimes accompanied by excessive perspiration, which occasionally commenced ten minutes after the first administration. In these cases Reigel gave simultaneously with the remedy $\frac{1}{10}$ grain of agaricin which usually suppressed the sweat without interfering with other effects. Noorden thinks it more advisable to give it 10–15 minutes before the antipyrin; atropine has the same effect, although neither will be absolutely reliable.

Vomiting was occasionally observed to follow the administration of even ordinary doses, but it was not of a sufficiently severe character to induce antipathy against the remedy. Usually they were females, and many of them vomited otherwise also. Demme reports a case of intolerance of the remedy, even in small internal or even hypodermic doses. It was a case of polyarthritic rheumatism, in which afterwards sod. salicyl. was well borne by the stomach. In Biermer's clinic antipyrin was used once, per clysma, in a case of typhoid, but the stomach was intolerant to it. The usual solution was well diluted, caused no pain, and brought about a fall of temperature, with the same quantities as when given per orem. Since then it has been given in the same manner in every case in which it produced nausea.

Dangerous effects were only once observed by Demme, where, in a child two and a half years old with typhoid, two hourly doses of four grains were given by mistake, with rapid fall of the temperature to 94.8° F. and fluttering pulse. Stimulants and frictions with warm cloths, however, restored the child. Pribram also mentions a case of collapse in a tubercular patient with pneumothorax, although only one drachm had been given during the day; the patient had borne this quantity well on two preceding days. May reports a case of collapse in a weak person with small pulse. In neither case was it fatal. Naunyn administered of it one ounce and four drachms in one case, in another one ounce and five drachms in eight days, in another four drachms in twenty-four hours without evil results.

In four cases Pribram found the drug followed by an exanthema—in three resembling measles, and in the fourth it simulated a scarlatina with small spots, which later united on the volar sides of hands and arms appearing like the erythema urticatum. In this case the same eruption occurred on the pharynx, and its duration was eleven days, while in the others three to four. He remarks that the eruption appeared after the remedy had been given for some time and the large doses had been abandoned, and only fifteen to thirty grains were given daily; that in spite of the discontinuation of the antipyrin it did not disappear, but developed still more for several days; that it occurred after the usual reaction of urine on the iron chloride had ceased.

While antipyrin can be diluted readily in the urine of those patients who are using it, it seems to cause no alteration in it as far as presence of albumen or coloring is concerned, although Fr. Müller found a considerable increase of the sulphates after large antipyrin doses. He therefore supposed that antipyrin in the urine is combined with sulphuric acid. In order to demonstrate it in urine, he cooked the latter with HCl, and diluted with water. The addition of a little grain of sodium nitrite colors it green with evolution of gas.

Antipyrin has been experimented with in a number of febrile diseases, although its best effects have been found in abdominal typhus and phthisis.

Biermer, Demme, and Pribram report in detail a number of cases of typhus treated with antipyrin alone, and all with a favorable result. The remedy causes the longest apyrexia in this disease. Although only the temperature and the pulse are visibly affected, as a rule, still usually the duration of the disease was lessened—in one case the number of stools decreased. Usually the sensorium of the patients remained remarkably free, and the appetite, even at the height of the disease, was remarkably good. In no case were there any complications or relapse. In order to hold the temperature experimentally down to the normal height, Pribram used in one case in 7 days 8 drachms in 20 doses, in another in 24 days 4 ounces, and in a third in 6 days 5 drachms. His other 6 cases received doses of from 15 to 30 grains only when the temperature rose to 104°, with an average duration of 25 days in 5; the 6th died on the thirteenth day. At the autopsy he found general parenchymatous degeneration of all the organs in addition to the usual lesions.

In tuberculosis the remedy has had continually good results. Without hindering the progress of the disease it prolongs life by preventing the rapid waste consequent upon the high temperature and the favorable influence it has upon the appetite.

In pneumonia, while it does not cut short the disease, it improves the chances of the patient considerably, and at the same time ameliorates his subjective sensations and lessens the dyspnœa. Large doses seem to be well borne in this disease. In one case 7 drachms of antipyrin were given in 4 days in 19 doses, followed by permanent apyrexia; in another in 1 day 1 drachm in 3 doses, with following convalescence (fifth day); in another in 6 days 6 drachms in 18 doses; in another 7 drachms in 34 doses in 6 days; in another on the seventh (probably critical) day 1 drachm in 3 doses, the total duration being 11 days.

In erysipelas Demme used it in children in 2 cases, and found that while the disease was not stayed, the general condition of the patients remained remarkably favorable—one was caused by contusion of the pustules of vaccine, the other a consequence of intertrigo of the nates. Dr. Alexander reports also favorable results from the clinic of Biermer.

In intermittents, according to Biermer, the fever could be arrested when antipyrin was given at the outset, *but its reappearance was not prevented.* Given during the height of the fever, even, it shortened it. Naunyn's observations were entirely negative. In one case he gave as much as six drachms in twenty-four hours without effect.

Antipyrin has, further, been used with good results in scarlatina, diphtheria, pleurisy, etc., as an efficient antipyretic. Injections of a one per cent. solution in gonorrhœa were well borne, but appeared to be no more useful than the usual preparations.

Pribram gives the following *résumé* of the effects and uses of antipyrin, which embodies also the views of most of the other observers.

1. It is a reliable remedy to reduce fever temperature and its concomitant ill-effects (pulse, respiration, dry tongue, delirium).

2. It shows its effect in disease where quinine, even in large doses, has none.

3. Its ready solubility, compared to the latter, makes it more desirable.

4. It can be administered successfully per rectum.

5. It is to be preferred to the use of cold water on account of simplicity of application and easy control.

6. It surpasses kaïrine on account of its prolonged effect and the absence of chills and collapse.

7. It seems to be particularly suited for the treatment of typhoid, phthisis, and pneumonia.

8. It appears to be less effective against acute rheumatism than salicylic acid.

9. In tuberculosis it lessens the loss of weight in advanced cases. It does not influence perspiration.

10. It appears to influence or even prevent the formation or secretion of substances giving the "diazoreaction."

11. Of evil effects we have only sometimes observed vomiting or the appearance of an exanthema. Only in one case we had collapse, which, however, was promoted by other causes. But until further investigations, it will be well to be cautious in its administration, especially in debility of the heart. This latter is not an absolute contraindication, but necessitates the additional exhibition of strong excitants. During the fall of temperature the tension of the bloodvessels increases.

12. We may, therefore, considering everything, pronounce antipyrin as a useful addition to the materia medica.

13. Concerning the mode of administration, it will be well, for the present, to follow Filehne's advice to give, in the afternoon, thirty grains, and then, as requisite, hourly doses of fifteen grains for adults in all diseases of pronounced type, as generally it is not necessary entirely to suppress the fever, but only to prevent the evil effects of continued high temperature. In tuberculosis, when the type is frequently inverted, the hour of administration would have to be changed. Individualization is, however, to be practised in every case.

As to the mode of administration, it may be—as casually mentioned above—per orem, hypodermically, or per clysma.

The doses and intervals have been indicated. The form may be either powder or solution. If given in powder, it is best dissolved in wine (tokay), but only at the time of administration; otherwise the coloring matter of the wine is precipitated by the antipyrin. In mixtures, the taste is readily disguised by syr. naphæ or rub. id., or else by the addition to simple syrup of a few drops of spir. citr., spir. meliss., or spir. menth.

Its hypodermic use is discountenanced by some as likely to give rise to local inflammation and abscesses. Rank is, however, particularly in favor of this mode of administration, and summarizes his views on the subject in about the following manner, viz.: Used hypodermically, it causes a more marked and rapid fall of temperature than when used internally. The doses necessary are smaller and less frequent. A solution of 1 : 0.5 aq. is to be preferred; the place of injection the gluteal region. Hypodermic application causes neither general nor local derangement. It is to be preferred, except where rapid fall of temperature may be dangerous, as in children or weak persons.

As to its administration per rectum, it has been mentioned above.

The sources from which, in addition to my personal observations, the above report was derived, are as follows:

Bericht der deutsch. chem. Gesellschaft, 1884, xvii. *Centralblatt für kl. Medicin.*, 1884, 36. *Zeitschrift für kl. Medicin.*, 1884, Suppl. *Semaine médicale*, 1884, 30. *Correspondenzblatt für schweiz. Aerzte*, xiv. 20. *Berliner kl. Wochenschrift*, 1884, 20, 24, 27, 30, 32, 36. *Deutsche med. Wochenschrift*, 1884, 24, 25, 26, 31. *Breslauer ärzt. Zeitschrift*, 1884, 11, 14, 15. *Centralblatt für Therapie*, Sept. 1884. *Prager med. Wochenschrift*, Oct. 1884.

Paris, France, November 15, 1884.

MEDICAL PROGRESS.

Successful Evacuation of the Femur.—Dr. Tassi presented a patient to the Academy of Medicine of Rome on May 25 last, on whom he had successfully operated for persistent osteomyelitis of the femur. The patient, a youth aged fourteen, from Aquila, of good constitution and parentage, first suffered two years previously from commencing osteitis of the internal femoral condyle. In the course of a few months, the pathological process invaded the whole epiphysis, and an abscess formed at the lower opening of the Hunterian canal. On the patient's admission into the Ospitale S. Giacomo, on January 8, 1884, with acutely urgent symptoms of purulent osteomyelitis, free exit was given to a subperiosteal abscess, and two large drainage-tubes were introduced. The inflammatory symptoms having subsided, the patient was placed under chloroform on February 4, and the soft structures freely divided between the vastus internus and the ring of the adductors. A large chasm was then made in the internal condyle, and, with the operator's spoon, the interior of both condyles and of the whole epiphysis was evacuated as far as the periarticular shell. It then became easy to evacuate the marrow and to scrape out the bone affected with osteomyelitis, purulent in some parts, fungous in others. The breach in the bone exceeded five inches in length. The cavity was washed out immediately after the operation, and then filled with very fine iodoform. A plaster-of-Paris apparatus was then applied to the whole limb, leg and thigh included, and only removed once in the course of three months. When the lad was presented to the Academy, the bone was wholly reproduced, there was no ankylosis, and he was in excellent health. Dr. Tassi added that he had at that time three similar cases in process of recovery in his wards in the Ospitale S. Giacomo.—*Lancet*, November 1, 1884.

THE ACTION OF COCAINE.—DR. JOSEF BETTELHEIM, of Vienna, reports the case of a man, 74 years of age, who had atheroma of the aorta, ossification of the coronary arteries, and anginous attacks. For some time he had complained of rectal and vesical tenesmus. Percussion over the bladder showed that it was not sensibly dilated; and rectal examination showed that the prostate was markedly enlarged, and probably the cause of much of the trouble. Cocao-butter suppositories were ordered, each containing gr. ss of muriate of cocaine. One of these being used in the evening, the patient slept well, and was not troubled by his bladder or rectum during the night. This good result continued during the following day. The suppository was then omitted in the evening, with the result that the trouble returned; the second suppository acted in the same manner as the first. From the promptness and efficiency of the cocaine in this case, Bettelheim concludes that the drug will hereafter play an important part in the treatment of painful affections of the rectum and genito-urinary system.—*Wiener med. Presse*, Nov. 9, 1884.

HEMICRANIA IN TABES DORSALIS.—DR. HERMANN OPPENHEIM, at the close of an article on this subject, in which he mentions thirteen cases, draws the following conclusions:

1. Hemicrania is so frequently found in the prodromal and later stages of tabes dorsalis, that the coincidence cannot be regarded as accidental.

2. This complication occurs more frequently in tabes dorsalis of women than of men; of 32 tabetic women 10 complained of migraine.

3. The relations of hemicrania to tabes dorsalis are of different kinds. Sometimes hemicrania will appear as early as ten years before the initial symptoms of locomotor ataxia set in; it comes on more and more frequently, with greater intensity, and of longer duration. In other cases it will appear coincidently with the ataxic symptoms.

4. When a patient complains frequently of hemicrania, it is the duty of the physician to make a close examination in order to ascertain if there are any symptoms of locomotor ataxia; if Westphal's phenomenon be present, but no other symptoms, he is justified in diagnosticating incipient tabes.—*Berlin. klin. Wochens.*, Sept. 22, 1884.

COARCTATION OF THE AORTA.—DR. HALE WHITE presented a well-marked example of coarctation of the aorta at the meeting of the Pathological Society of London, on November 4th. The specimen was taken from a male subject, aged 46, who, during life, had been diagnosticated to be suffering from heart disease; the symptoms being a systolic *bruit*, and some œdema of the lower extremities. At the necropsy, the aorta was found to be so constricted at the point where the ductus arteriosus joined it, that it would only just admit an ordinary probe. The ductus arteriosus had completely disappeared. The aorta, between the left subclavian and the constriction, was so small that the subclavian appeared to be a continuation of it. The thoracic and abdominal portions of the aorta were very small. The collateral circulation was thus carried on. The superior intercostals, very large and convoluted, anastomosed with the first aortic intercostals, which were also very large; the posterior scapulars, both of which came from the third part of the subclavian, divided on the back, at the upper border of the scapula, into two branches, which, reuniting, formed a circle on the back of that bone; from these posterior scapular arteries, branches of great size were given off, which anastomosed with the second, third, and fourth intercostal arteries, close to the spinal column; the right subscapular was extremely large and tortuous, and divided into two branches, both of which joined the intercostal artery in the ninth space; the left subscapular joined the arteries of the ninth, tenth, and eleventh intercostal spaces; the internal mammary arteries anastomosed with the aortic intercostals, the phrenics, and by the superior epigastric branches, which were very large and tortuous, with the deep epigastric arteries; the right superior epigastric artery gave a large branch, which, descending in the suspensory ligament of the liver, anastomosed with the hepatic artery in the liver-substance; small branches of the inferior thyroid artery anastomosed on the longus colli with branches of the intercostal arteries; a descending branch of the profunda cervicis artery, running down on the semispinalis, joined the posterior scapular arteries; the inferior thyroid artery, on each side, was a branch of the common carotid. The deformity in this case, as probably in all similar cases, was due to a faulty development of the part of the fourth left branchial arch which extended from the left subclavian to beyond the ductus arteriosus. The heart, which was also exhibited, showed extreme hypertrophy of both sides; all the cavities were much dilated, the dilatation keeping pace with the hypertrophy. In the apex and ventricular wall was a large patch of fibroid disease. It was pointed out that this deformity was extremely rare; very few cases had been recorded, and only one had been diagnosticated during life. The age to which patients, thus affected, lived, varied very much, for one man had lived to be ninety.—*British Medical Journal*, November 8, 1884.

FACIAL NEURALGIA TREATED BY NERVE VIBRATION.—DR. WILLIAM H. NEALE, of London, reports a case of severe facial neuralgia successfully treated by nerve vibration, or percussion. He used the small, flat ivory disk, with about ninety vibrations to the second, applying it to the primary seat of pain. After an application of about eight minutes the pain at that point had entirely disappeared. The disk was then moved until another painful spo was found, and the percussion again performed. Each day the painful points were sought out and percussed until the patient entirely recovered.—*Practitioner*, November, 1884.

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SATURDAY, DECEMBER 6, 1884.

REMOVAL OF THE FORCEPS BEFORE THE HEAD IS DELIVERED.

IN Dr. Lusk's *Science and Art of Midwifery*, the following passage is found: "Although not generally recommended, it is always my custom to remove the forceps so soon as the chin can be reached by the index finger introduced into the rectum. The extrusion of the head, if it does not occur spontaneously, can then be easily effected, and the blades of the forceps, though of no great thickness, still add something to the distention of the vulva."

The removal of the forceps before the head is born, though recently urged by some others, as well as by Dr. Lusk, is by no means a new practice. In the French translation of Naegele and Grenser, p. 324, the statement is made: "Among the German authors, Boër, and after him Joerg, Carus, and others have recommended the removal of the forceps as soon as the head is engaged in the vulva, unless immediate delivery is required." Madame Lachapelle, criticising the advice of Baudelocque, to protect the perineum with one hand while the other is used to pull upon the forceps, said that, in following this precept, rupture of the perineum was inevitable, because the forceps augmented the volume of the head, more widely separated the labia, hastened the escape of the head, and caused the distention to be much greater and more abrupt. Her practice was always to remove the forceps as soon as the head had escaped from the bony parts. These statements are enough to prove that this practice, "though not generally recommended," is quite old.

But, though old and advised at first by some of the most able of obstetricians, and thus advised again, the practice has never been generally adopted, and its propriety may at least be questioned.

It is worthy of remark that, while some obstetricians would have the instrument removed for the protection of the perineum, others regards its retention as valuable to prevent injury; Kleinwächter and Robert Barnes may be mentioned as holding the latter opinion.

A word first in regard to the common assertion that the blades of the forceps retained upon the fœtal head increase the liability to tearing the vulval opening by increasing the stretching of the latter. The late Prof. Hodge held that when the instrument was properly applied the parietal protuberances projected through the fenestræ of the blades, so that the forceps occupied no space as regards the lateral diameter of the fœtal head, and, indeed, by its pressure slightly lessened this diameter. Petrequin's experiments have proved that if one diameter of the fœtal head is lessened by the compression of the forceps, the diameter perpendicular to it is increased; thus, when the blades of the forceps are applied to the sides of the head the biparietal diameter may be lessened by strong compression, but this apparent benefit is in part, if not completely, neutralized by increase in a suboccipital diameter, so that there may be no absolute lessening of the head plane concerned. Indeed, any compression of the fœtal head more than enough to prevent the instrument from slipping is regarded by most obstetricians as injurious; the best forceps is that which compresses least, is a remark of Poulet recently made. Our faith, then, is with Dr. Lusk, rather than with Dr. Hodge, as to the effect of the forceps adding to the circumference of the head-plane, in so far we believe the former is right in advising the withdrawal of the instrument before delivery of the head. But, as he himself says, this addition is very small; further, it may be in some measure compensated for by an increase in the maximum diameter of the fœtal head if sufficient time is given.

Dr. Hodge condemned the removal of the instrument, as advised originally by Boër, unless in exceptional cases, and one of his arguments against the practice was that the fœtal scalp which protruded through the fenestræ of the forceps' blades—buttoned into them, as it were—would be injured in such withdrawal. But this objection must be regarded as purely hypothetical, and so far has never been sustained.

Another objection to the practice proposed, is that the operation is incomplete; the instrument has been applied for the delivery of the head, but is withdrawn before that delivery is effected, and thus the patient and her friends may be dissatisfied, or discouraged. But this objection is not of any weight with the conscientious physician—his action must be governed by what he believes to be the true interests of the mother and of the child.

Some other objections are not so easily answered. It may happen that, while the obstetrician is removing the forceps, vigorous uterine and abdominal contraction may expel the child and he is so engaged that he can do nothing for the protection of the perineum. Or again, after the instrument is removed, the expulsion failing, a reapplication is necessary. For these reasons we believe Pinard is right in saying that one ought not to disarticulate the forceps until the head has been delivered, unless the latter has been improperly seized.

Velpeau, who regarded removal of the forceps as often useful, also taught that the surest means of protecting the perineum was to retain the head at the vulva as long as possible, making no traction, if the uterus had sufficient energy to complete the labor.

Certainly the forceps is one of the best of means for keeping the head in the passage until the latter is sufficiently dilated for the safe escape of the former, and also the best of means for securing the passing out of the head in the axis of the vulval opening, and thus contributing to the protection of the perineum.

CONSTITUTIONALITY OF LAWS REGULATING THE PRACTICE OF MEDICINE.

THE matter of the regulation of the practice of medicine and surgery by legislative enactment is daily acquiring more importance and efficiency as the various acts which have been from time to time passed in the different States come to be tested and sustained by the courts.

The most recent case of this kind has been decided by Judge Green, of the Supreme Court of West Virginia, in regard to one Dent, who sought to practise medicine in that State, without the required license, which was refused him because the Board of Health did not consider that the college whence he had his diploma, the "American Medical Eclectic College of Cincinnati, Ohio," came under the word "reputable" as defined by said Board. The defendant having been found guilty in the lower court, and the court having overruled a motion for the arrest of judgment, the former took a bill of exceptions, setting forth that the act "was unconstitutional and therefore void so far as it interfered with the vested rights of the defendant in relation to the practice of medicine." In some half-dozen or more cases quoted by the court as occurring in different States of the Union, this was the point taken in every instance, and has always been overruled, and the constitutionality shown by the application of undisputed principles well settled by numerous decisions.

In view of the increasing importance of a knowledge of this subject to medical men, it will be interesting to explain more fully the ground on which such unconstitutionality is alleged. It is held that the sections defining the conditions essential to obtaining the license to practise, which are similar in the acts of the different legislatures, are inconsistent with article 10 of the amendments to the Constitution of the United States and to section 1 of article 14 of the same amendments, as well as sections in the bill of rights, which are also more or less common to the constitutions of all the States. Perhaps the strongest paragraph out of a number explaining these provisions is the following: "Every wanton and careless restraint of the subject, whether practised by a monarch, a nobility, or a popular assembly, is, to a degree, a tyranny; nay, even laws themselves, whether made with or without our consent, if they regulate and constrain our conduct in matters of mere indifference, without a good end in view, are regulations destructive of liberty." But the courts have ruled that the laws regulating the practice of medicine are no violation of such principles. The legislature of any State has a perfect right, under its general police power, to pass laws placing individuals under restraint in the exercise of any business, calling, or profession, and has exercised it. In accordance with this laws have been made to license bakers and sellers of intoxicating drinks, and the practice of law has been thus regulated in every State, and the same principles apply to the regulation of the practice of medicine.

An amendment passed in 1818 to the Massachusetts Act of 1817 is analogous to section 4 of the Registration Act of the State of Pennsylvania, requiring the faculties of the medical colleges in this State to pass upon the diploma of a graduate of a college in another State who desires to practise in Pennsylvania. The amendment to the Massachusetts act provided that no person practising physic or surgery shall be entitled to the benefit of the law for the recovery of any debts or fees for his professional services, unless he shall, previously to rendering such services, have been licensed by the Medical Society or been graduated a doctor in medicine at Harvard University. This amendment, it was claimed, was unconstitutional, but not because it required a license of a physician before he could practise, but because, in violation of the State constitution, it conferred peculiar privileges upon the Medical Society or Harvard University. But the court in Hewitt *vs.* Charer, 16 Peck, 356, decided that this act was constitutional, saying, "It appears to us that the leading and sole purpose of this act was to guard the public against ignorance, negligence, and carelessness in the members of one of the most useful professions." And this they treated as legitimate as a matter of course.

In giving the opinion from which the above information is obtained, the learned judge concluded as follows: "It seems, therefore, clear that both on reason and authority we could not do otherwise than hold that all the provisions in section 9 and section 15 of chapter 93 of the acts of 1882 are constitutional and valid, and should be enforced by all the courts." And in this the three remaining judges concurred.

With the numerous decisions in favor of the constitutionality of the various medical acts, there is every encouragement to proceed with the enactment of laws for license and registration in those States as yet unprovided with laws. One of the most recently proposed is appended to an address by Dr. H. J. Sharp before the Ohio State Medical Society in June, 1884. It is an act to establish a Medical Board of Examiners and Licensers and regulating the practice of medicine and surgery in the State of Ohio. It provides for a board of examiners composed of nine reputable physicians who shall be graduates of legal medical colleges, unconnected with any medical school or college. This board shall hold quarterly examinations, in writing, of all candidates referred to them by the president of the board, but requires also that the candidate be twenty-one years of age, of good moral character, and shall have received a diploma from a legally incorporated medical college. The act very properly does not exempt the graduates of Ohio schools from the examination, as unfortunately do the acts of some other States. For although the favoring of such medical schools seems to be constitutional, as far as determined by State courts, yet there is no equitable reason why their graduates should be thus favored, and the clauses containing them should be speedily rescinded. In other respects, this bill seems reasonable and just, and should commend itself favorably to the Ohio Legislature.

FORMATION OF RED BLOOD-DISKS IN THE LYMPHATIC GLANDS.

It is generally acknowledged that the spleen and marrow of bones are the seats of formation of the red blood-disks, while the lymphatic glands are the factories of the white or colorless corpuscles. But recently Prof. Rindfleisch has reported to the Congress of German Naturalists and Physicians some observations which go to show that the seat of formation of red disks is sometimes partly transferred to the lymphatic glands, which, under these circumstances, are converted into a hæmatoblastic tissue, quite like that of the spleen, including its Malpighian corpuscles. He describes two cases in which this partial conversion had taken place, in which hæmatoblasts, or nucleated red corpuscles were found in the lymphatic glands.

The first case was that of a thirteen year old boy, who was brought for autopsy into the Würzburg Pathological Institute. In addition to the appearances of cachexia, he had a tubercular disease of the knee-joint, which had lasted one year, and a very peculiar condition of numerous lymph and mesenteric glands. The glands in the ileo-cœcal neighborhood, and the chain in the neck were raspberry-colored, and about twice as large as the normal glands. The spleen was not amyloid, but hyperplastic, and normal in hue, while all the bones were filled with fresh red marrow rich in hæmatoblasts, and the fatty marrow was reduced to a mere remnant.

He also found the chyle vessels at the point of their exit from the hilus of the lymphatic glands filled with a thick, red juice, which, in addition to red corpuscles, contained a large number of true hæmatoblasts, while in the parenchyma of the glands he found the same elements. So, too, in the hilus of one kidney he found a large amount of fatty tissue converted into the same hæmatoblastic parenchyma. In the second case he also found a true conversion of the mesenteric glands into splenic tissue.

This very interesting, although, in the light of the recognized functions of the two tissues, not altogether surprising transformation, Rindfleisch believes to be brought about by a condition, of moderate, but persistent, passive hyperæmia.

YELLOW-FEVER INOCULATIONS.

The latest Paris exchanges give an account of the sitting of the Academy of Sciences, at which M. Bouley presented the note from Brazil on yellow fever referred to by an occasional correspondent in our last issue. The microbe is stated to be a cryptococcus, and is found in the blood, the black vomit, and the dejections. A large number of inoculations appear to have been successfully made with a mitigated virus, and all of the persons—over 500—so treated escaped the disease. M. Bouley accepts the facts of the vaccination and its protective power, but doubts the characters of the microbe, to determine which he suggested the appointment of a special commission. These observations will naturally excite great interest, and we shall expect shortly to have a more detailed account of them to lay before our readers.

ARTIFICIAL MELANÆMIA AND MELANOSIS.

Schwalbe, of Magdeburg, has succeeded in experimentally producing melanæmia and melanosis by introducing under the skin of guinea pigs and pigeons, or through the œsophagus into the stomach, sulphide of carbon dissolved in olive or poppy oil, in the proportion of 5 to 10 parts of the former and 95 to 100 of the oil. In from four to eight weeks there were marked melanæmia, and melanosis of almost all the organs. The blood, and especially the blood of the splenic vein, was rich in pigment cells, pigment flakes, and pigment granules. The spleen abounded in pigment, as did also the kidneys, lungs, and bone-marrow; but in the liver, spinal cord, and thyroid gland the pigment was scanty, although small pigment granules were even found in the intestinal epithelium. The heart was fatty and the seat of numerous blood extravasations and of pigment. In similar experiments Klebs and Tommasi-Crudeli have succeeded in producing pigmentation of the spleen and superior mesenteric glands.

The pathological phenomena here described are precisely those found in persons dying of severe malarial fever with melanosis. In the discussion which followed the reading of the paper before the recent German Congress of Naturalists and Physicians, Dr. Lassar, of Berlin, said he had produced the same results by peritoneal transfusion with the blood of the same animal. They were accompanied by albuminous bile-secretion, by fever, and circumscribed inflammations about the foci of pigment deposit. Lassar thought that since disintegration of the blood could be produced in this and other ways, we are scarcely justified in drawing conclusions from any such experiments as to the nature of the cause of malaria. The only justifiable conclusion is that the cause of malaria and the sulphide of carbon both act destructively upon the red blood-disks.

Such an objection must be admitted to be entirely legitimate. At the same time, it cannot be denied that such experiments and their results bring us a step nearer the truth, and give us a new and advanced starting-point for further investigation.

It is interesting to note, in connection with this discussion, that there was a general disposition, on the part of those engaging in it, to accept the fungus theory of the cause of malaria.

SCIENCE AND LAW.

The advocates of antiseptic treatment may regard their cause as strengthened by the action of a civil court. A case of this kind was recently presented before a German tribunal: A party having received a wound of the chest, was treated by a physician who, wedded to old ways, used no antiseptic measures, and the patient died of septicæmia; the medical attendant was arraigned, tried, and condemned to a fine for his neglect to use antiseptics.

If such cases as this become common abroad, how soon and how greatly will the field for suits for malpractice be enlarged in this country. If antiseptics are of such importance, a physician can hardly lose a patient from acute or chronic disease if he should fail to use them, without making himself liable to prosecution. Possibly the courts, in their infinite wisdom, may go still further, and decide that it is a crime to die when such means have been used, and, as the arm of human justice is not long enough to reach the departed, it may take vengeance upon his estate and his heirs, claiming the former for the benefit of the public weal.

However, before any such radical step as this is taken, it would be well for the courts to determine what are the best antiseptics, and the best method of using them.

THE WASHINGTON INTERNATIONAL MEDICAL CONGRESS.

On another page will be found a memorandum of the preliminary proceedings of the Committee charged with the organization of the Ninth International Medical Congress, to be held in Washington in 1887. The selection of Dr. Austin Flint for President and of Dr. Billings for Secretary-General will everywhere be received with general favor. The meeting was fully attended, and the feeling of deep interest and responsibility manifested augurs well for the successful completion of the onerous task which is imposed upon the Committee.

REVIEWS.

The Principles of Ventilation and Heating, and their Practical Application. By John S. Billings, M.D., LL.D. (Edinb.), Surgeon U. S. A. Pp. 214. The Sanitary Engineer, New York, 1884.

This is a book which should be read by everyone who is desirous of gaining the best information in regard to methods of mitigating the injurious effects of winter's cold and summer's heat upon human organisms. In it are furnished the results of a wide experience in grappling with these great sanitary problems, and the knowledge of questions involved which caused its author to be sought for as professional consultant in the construction of the Johns Hopkins Hospital, of Baltimore, is here displayed, matured and perfected by earnest study in England and on the continent as well as in our own country. At the same time Dr. Billings does not disdain to season his severely scientific counsels with an occasional spice of the true Attic salt in such a way as to render even the dryness of heating and the vacuity of ventilation attractive to a general reader.

The work is an outgrowth of a series of letters to a young architect, originally published in the *Sanitary Engineer*, but now rearranged, and in part rewritten, numerous illustrations being added. It does not claim to be a systematic manual, but has for its object the presentation of the general principles which guide us in judging of the various appliances proposed for ventilation and warming, especially of large public buildings both at home and abroad. Among the systems described in detail are those of the New York Hospital, and Metropolitan Opera House; the Capitol at Washington; the Houses of Parliament and the charming little Criterion Theatre in London; the St. Petersburg Hospital, and several other important structures.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, November 11, 1884.

The President, Robert F. Weir, M.D., in the Chair.

SIMULTANEOUS INCOMPLETE WOUND OF FEMORAL ARTERY AND VEIN; LIGATION IN THE WOUND OF BOTH VESSELS; RECOVERY.

Dr. Pilcher presented a man, æt. 34, a butcher, who, in the evening of May 17 last, accidentally stabbed himself with a long, sharp, narrow-bladed knife, the blade entering the upper and front part of the right thigh a little below the line of Poupart's ligament. The overwhelming hemorrhage, which at once followed, was fortunately quickly controlled by pressure at the hands of Dr. N. B. Siner, of Brooklyn, who happened to be within hail at the moment of the accident. This pressure was then assisted by the insertion of a tampon into the wound, until the arrival of Dr. Pilcher later, and thus time was afforded to make the necessary arrangements for the permanent arrest of the hemorrhage. The parts adjacent to the wound were shaven and cleansed, and as full an effort made to conduct the required operative procedures, without septic contamination, as was possible under the circumstances. The original wound was a transverse cut of only three-fourths of an inch in extent. A longitudinal incision of some inches in length was made, extending above and below the stab-cut, while pressure was kept up at the point from which hemorrhage proceeded. The femoral vessels in Scarpa's space having been fully exposed, it became evident that the knife had pierced the femoral vein about an inch and a half below Poupart's ligament, and, having divided its outer half, had also divided the adjacent inner half of the femoral artery, inflicting thus an incomplete wound upon both the main vascular trunks of the limb. While pressure was still directed upon the vein wound, the artery, being compressed above, was completely divided at the point of wound, and the divided ends each secured by a catgut ligature. More difficulty was experienced in dealing with the vein, for although adequate pressure was made upon it, both above and below the wound, the moment the pressure upon the wound itself was intermitted, a most copious flow of blood would deluge the field of operation. The embarrassments of the moment were increased by the dim light, which was but little bettered by the lamp of the ambulance surgeon, who was acting as one of my assistants; and by the fact that the previous infiltration of the region with blood had become such as to obscure much the distinctions between the tissues of the part usually available for the guidance of the surgeon. Further dissection, however, finally revealed two large muscular vein-trunks entering the femoral vein from behind, just opposite the point of the wound. A ligature having been tied about each of these, the further dealing with the main trunk, by severing it and tying separately each end, was accomplished without difficulty. The wound was then irrigated with sol. hydrarg. bichlor., 1 to 1000, and closed with sutures, proper bandaging and compresses being applied to insure union by first intention. Suppuration, however, took place, and on the third day the wound was reopened at its most dependent point, and drainage-tubes inserted, and irrigation resorted to. A sharp attack of cellulitis following the line of the sartorius muscle followed, necessitating several counter-openings for drainage for its control. The patient rallied well from the extreme loss of blood sustained at the time of the accident. After the eighth day his progressive convalescence was assured. His perfect recovery was delayed by the fact that some of the catgut ligatures proved to be irritants and determined circumscribed phlegmons at the points where applied that suppurated. These all finally closed, and on the 2d of July he began again to attend to his business.

Later in July another small phlegmon formed at the site of the lower ligatures, which, however, occasioned only a temporary inconvenience. While lying in bed, no disturbance of the nutrition, nor of the circulation even, in the affected limb was noticeable. After getting up, the tendency to œdematous swelling of the leg was quite marked. This was easily controlled by an elastic stocking, and at the present date has become much less marked.

At no time in the history of the case did any noticeable disturbance in the nutrition of the limb occur. In the early days, after beginning to walk about, there was marked œdema and weakness of the leg. An elastic stocking sufficed to control this. To-day, about six months after the injury, he has used no support to the limb, and inspection shows a barely recognizable tendency to œdema of the leg. During the operative procedures required for ligating the vessels at the time of the injury, neither the profunda artery nor the internal saphenous vein came into view; but it may be assumed that the wounds were below the points where these vessels join their respective main trunks.

Beside the interest attaching to the peculiar nature of the wound itself, and the fortunate conjuncture by which immediate death was averted, special interest attaches to the bearing of the case upon the treatment of wounds of the femoral vein. The history of the case demonstrates the value of diminishing the arterial supply to the limb, when the great vein outlet of the limb has been occluded; but, as a means of controlling the hemorrhage from the vein wound, it has been seen that the ligature of the femoral artery was valueless, for the apparent profuseness of the flow from the vein-wound was not diminished after the artery had been secured.

Dr. Gerster reported a case which occurred in his experience five years ago, and belonged to the class of injuries included in Dr. Pilcher's case. One of his colleagues at a city hospital had removed the inguinal glands from a young man. It was thought later that instead of an eight per cent. solution of chloride of zinc being used, by the mistake of a nurse, a much stronger solution was employed for washing out the wound, at the bottom of which the femoral vein and artery were exposed. Three days after the operation an exceedingly profuse hemorrhage occurred, and the house surgeon did not know better than to throw an elastic bandage around the limb below the point of bleeding, because it was venous blood which poured out of the wound. The constriction was sufficiently strong to compress the vein but not the artery, and the limb became a reservoir for a large collection of the patient's blood.

Accidentally, Dr. Gerster called at the hospital about two hours after this had occurred. When his attention was directed to the case, he saw that local pressure was being kept up by means of large bundles of dry cotton pushed into the bottom of the wound. Naturally it failed to control the hemorrhage completely. The patient was nearly dead from acute anæmia. Dr. Gerster removed the clots from the bottom of the wound for the purpose of finding the source of hemorrhage, and saw that a piece about an inch long and a quarter of an inch wide, belonging to the anterior wall of the vein, had sloughed out, and through this large opening great quantities of blood had poured forth.

The artery being exposed in the bottom of the wound, his first thought was to adopt Langenbeck's proposal to occlude the femoral artery, which was easily accomplished by pressing it against the pubis. But this did not control the hemorrhage, wherefore the idea of ligating it was abandoned. There remained, therefore, nothing but to ligate the vein itself, and he divided the vessel, as Dr. Pilcher had described, as well as possible while pressure was being constantly exerted upon it above and below, and applied ligatures on both ends. The hemorrhage, however, did not cease, and continued because large muscular venous trunks entered from behind. By the time these were exposed and tied the patient had expired.

Undoubtedly it was not external hemorrhage alone in this case which caused the fatal issue, because one of the largest limbs of the patient was engorged with blood to its utmost, and was not only cyanosed, but was necessarily increased in circumference.

THE CHICAGO GYNECOLOGICAL SOCIETY.

Stated Meeting, November 21, 1884.

THE PRESIDENT, H. P. MERRIMAN, M.D.,
IN THE CHAIR.

DR. EDWARD WARREN SAWYER opened a discussion on the

TREATMENT OF ABORTION,

by calling attention to the frequency of the interruption of pregnancy before fœtal viability. Madame Lachapelle says abortions are as frequent as labors at full term. The experience of the profession opposes the generalization. In his own practice, extending through a period of ten years, he had only seen from forty to forty-five abortions. As illustrative of the wonderful conservatism and care of nature in these cases, he had never met with a fatal case in his own practice, and had seen but one fatal case in the practice of his medical brothers. This fatal case was complicated by cellulitis and pneumonia.

As to causation, abortions are divisible into two causes: (1) those occasioned by natural processes; (2) those induced by accidental or intentional violence. The former class usually terminates favorably. The latter class is the *bête noir* of the physician. It is a matter of medico-legal interest, that in abortions resulting from natural processes—*i. e.*, fatty degeneration of the decidua—the ovum and decidua are expelled, as a rule, in an intact condition, while in criminal abortion the product of conception is expelled in a more or less mutilated state. When the ovum has been mutilated, the embryo is extruded from the cavity of the uterus, before the fœtal envelopes and decidua, and is frequently lost. Moreover, the embryo, so late as the fourth week, may be completely absorbed. The absence of the fœtus cannot be regarded in the differential diagnosis of abortion, molar pregnancy, or intrauterine fibroids. Two distinct courses, as to the treatment of abortion, have been adopted by the profession. The radical method of immediate evacuation of the contents of the uterine cavity, and the plan of patient waiting, have been, in turn, defended and opposed. Dr. Sawyer has followed the expectant mode of treatment. He waits and allows nature to effect the expulsion of the product of conception. He has waited as long as one week. He has been encouraged in this line of treatment by the fact that he has never seen any untoward consequence in the cases managed in this manner. He enjoins absolute rest in the horizontal position, and the exhibition of quinine and alcohol as required. Local treatment, apart from the vaginal tampon, is limited to vaginal injections of chlorinated soda. He has never noticed hemorrhage or inflammatory action as the result of this course of action. He objects to the removal of the whole or part of the product of conception from the uterine cavity because, (1) it is a painful procedure, involving the use of ether, and predisposing to hemorrhage from uterine inertia; (2) an assistant is necessary; (3) the amount of unavoidable injury to the genital tract is considerable.

In conclusion, Dr. Sawyer exhibited an unusual specimen. The specimen consisted of an intact amniotic sac, enclosing a five months' fœtus, with filamentous insertion of the umbilical cord. Separation had occurred between amnion and chorion, the chorion, placenta, and decidua remaining within the cavity of the uterus. He had been called to see the woman—five months advanced in pregnancy—who was suffering from severe uterine contractions and hemorrhage. After a brief interval the specimen, presented to the Society, was expelled. Noting the intact condition of the amnion, Dr. Sawyer paid no further attention to the mass, told the woman to fear no more trouble, and went home. Next morning, upon visiting his patient, he was informed that one hour after his departure, under renewed hemorrhage and uterine contractions, another mass was expelled. This second mass proved to be the chorion, placenta, and decidua. A medical friend, Dr. Albert G. Paine, had seen an exactly similar case.

DR. W. W. JAGGARD said that separation between the amnion and chorion was relatively infrequent during the sixth and seventh months, but was not uncommon prior to that period. In regard to the treatment of inevitable abortion when the ovum was expelled in an intact or mutilated condition, and decidua or portions of the fœtal membranes remained within the uterine cavity, it was necessary to regard the natural history of the condition. This condition had been appropriately termed by Breslau "incomplete abortion." The terminations are briefly:

(*a*) Spontaneous elimination of that portion of the product of conception remaining within the uterine cavity as the result of retrograde metamorphoses, accompanied by intermittent hemorrhages and uterine contractions.

(*b*) Sometimes, though seldom, hemorrhage ceases entirely, and the patient is apparently well. This interval varies from a few days or weeks to months. Suddenly hemorrhage and pain occur, and the intrauterine mass is expelled. This retention, with a long interval of rest, is noticed when the placental or decidual attachments are intact. That this act constitutes the termination of the labor, so to speak, is apparent from the facts, that the milk secretion is usually established at this time, and the reduction metamorphosis is instituted.

(*c*) More frequently the retained decidua or placenta undergoes suppuration, or ichorous changes, as the result of which systemic infection is liable to occur, despite the thrombosis of the uterine sinuses and the proliferative changes in the uterine mucosa.

(*d*) The retained placenta or decidua may become converted into placental or fibrinous polypi—conditions which always require operative interference.

All four terminations present sources of danger to the mother. From this glance at the natural history of the condition—for the elucidation of which Spiegelberg deserves especial recognition—the weight of evidence is in favor of the so-called radical treatment. Empty the cavity of the uterus at the earliest possible period. The plan recommended by Dr. Mundé in the February number of *The American Journal of Obstetrics*, 1883, was worthy of high commendation. One finger within the uterus, one hand on the fundus was preferable to instruments when equally effective. The subsequent treatment was of extreme importance.

Whenever the cavity of the uterus is invaded by the finger, or any instrument, it must be irrigated by some antiseptic solution. Two per cent. solutions of carbolic acid, or one to two thousand of the bichloride of mercury, are efficient in the destruction of conditions favoring decomposition and sepsis. After irrigation of the cavity of the uterus it is a good plan to introduce within the uterus a bacillus of powdered iodoform, weighing at least six grammes. Symptoms of iodoform intoxication rarely, if ever, follow the exhibition of this quantity. Ten grammes are usually required to produce toxæmia.

Dr. D. T. Nelson said that the dangers from abortion were (1) hemorrhage, (2) sepsis, (3) inflammation. Rest and opium were not sufficient. He could not rest until the uterine cavity was empty. He had no sympathy with the expectant plan of treatment. The manner of emptying the uterine cavity was of importance. If the cervix was dilated, or dilatable, the cavity should at once be cleaned out with the finger. If the cervix was not dilated, nor dilatable, it should be plugged in the manner indicated by Dr. Adolphus, with tupelo or laminaria tents. If the cervix was partially dilated or dilatable, and the uterus fixed, give an anæsthetic, relax the spasm, and proceed as in the first case. He had no fear of ether predisposing to uterine inertia. In dissecting off the placenta it was advisable to glove the finger-tip with the amnion. In the early months, when the ovum was attached near the cornua, it was necessary to bear in mind the possibility of irregular contraction, and the inclusion within either cornu of a bit of the placenta. The cornua must be thoroughly explored. When he employed intrauterine irrigation—by no means an invariable method of treatment—he used a one-half per cent. solution of carbolic acid, or a dilute solution of ordinary table-salt. The solution must be hot, 110° to 120° F. Hot water, in the absence of carbolic acid or salt, was effective as a cleansing agent, and as inducing uterine contractions. He had had no experience whatever with iodoform, but regarded it as superfluous in all cases.

Dr. Wm. H. Byford said that abortions were more frequent in large cities than in the country. Madame Lachapelle's estimate of the frequency of abortion was not exaggerated when applied to large communities. In the country, he thought, one abortion to three labors at term represented a fair average. Abortion was never a physiological process; although abortions from disease of the ovum were attended with less danger than those resulting from morbid uterine changes. In disease of the ovum, the circulation was impaired, the embryo perished, and expulsion followed with the minimal degree of hemorrhage, pain, and sepsis. When the cause of abortion was external violence, or decidual endometritis, danger in each of these three directions was increased. The specimen exhibited by Dr. Sawyer, was of rare occurrence at so late a period; it was comparatively common during the early months.

As regards the prophylactic treatment, he had observed two clinical facts in connection with the habit of abortion. When uterine contractions were the prominent symptom, abortion could be arrested in many cases by absolute rest and opium. When hemorrhage was severe, all attempts at arresting the process were usually futile. This was especially true during the first three months. At a later period, even when hemorrhage was severe, abortion might be arrested.

In regard to the treatment of inevitable abortion, he had never seen the time when champions of the expectant and radical courses of action did not exist. The treatment must be governed by the consideration of the individual case. In any case, the patient must be carefully watched. He had never seen a case of abortion terminating by immediately fatal hemorrhage. The acute anæmia, however, might induce a condition which would render the woman more susceptible to sepsis, or any intercurrent disease. He feared sepsis and metro-peritonitis more than hemorrhage. He was conservative as to operative interference. Let nature do what she can; only in case of failure on her part interfere. The finger is preferable to any instrument. Then it is not necessary to insist upon the removal of placenta or membranes with mathematical accuracy. If the placenta be grasped by an irregularly contracted uterus, cut off the free portion, and allow the rest to lie in the uterine cavity. If two-thirds of the placenta have been removed, and the uterus well contracted, the case is to be considered in a safe condition. In event of sepsis, remove all the intrauterine mass.

Dr. John Bartlett stated that, in his practice, abortions were as frequent as labors at term. The product of conception was usually expelled in its integrity. When abortion was inevitable, two conditions were required before operative interference was justifiable: (1) dilatation of the canal of the cervix to the extent necessary for the passage of two fingers; (2) the separation between decidua and the uterine mucosa must be more or less complete. Until these conditions were present, the vagina ought to be tamponed. For a tampon, he was in the habit of employing bits of cotton tied on a string in the manner of the kite-tail.

He had seen two cases in which the placenta had remained for a long period of time within the uterine cavity without causing symptoms. The retention in one case lasted through a period of three months; in the other case, the period was four months. As to the length of time the tampon could be left *in situ*, he had adopted Dr. De Saskie Miller's rule of allowing it to remain twenty-four hours. He had frequently tamponed through three days. The colpeurynter of Broca was a useful tampon. No tampon was effective when the hemorrhage was not of a passive character, and uterine contractions were severe.

It was necessary to diagnosticate between placenta prævia and abortion. Placenta prævia implied simply an *error loci* of the ovum. It was included between the ring of Bandl and the external os. Dr. Bartlett had never seen a case of abortion terminate fatally from hemorrhage.

Dr. H. P. Merriman, after endorsing Dr. Byford's remarks on the etiology of the condition, said that he did not like to use ergot in these cases, as it caused irregular contractions of the internal os, imprisoning the placenta, without favoring its expulsion. He produced uterine contractions by dilating the os, and then followed the expectant plan of treatment.

Dr. D. W. Sawyer, in closing the discussion, said that he had observed abortion in the lower animals, and concluded they required little interference. He then briefly sketched the line of expectant treatment which he was in the habit of recommending.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 20, 1884.

The President, Fordyce Barker, M.D., LL.D.,
in the Chair.

Dr. V. P. Gibney read a paper on

THE SURGICAL MANAGEMENT OF RACHITIC DEFORMITIES OF THE LOWER EXTREMITIES.

He said that it was his firm conviction that a fair proportion of cases of knock-knee recovered spontaneously; and his reasons for this belief were that: (1) During the period between 1871 and 1877, he had seen 255 cases of genu-valgum at the Hospital for Ruptured and Crippled in Forty-second Street, in patients under fourteen years of age. When mechanical appliances were used in its treatment, it was in the form of internal and external steel springs, with a foot-piece and pelvic band. In the cases treated since, in 1877, the pelvic band had been dispensed with; but he did not believe that the percentage of cures was any larger since this had been the case. (2) The scarcity of cases of knock-knee, in adults, seen in the city of New York. The larger number of cases of osteotomy for this affection were in children between the ages of three and eight years. In regard to the deformity of bowlegs, he was also convinced that many cases recovered without surgical treatment. During the period mentioned, he had seen 1005 cases at the hospital; in 927 of which the patients were under fourteen. Three were in adults, and five in patients between fourteen and twenty years of age. The great majority of cases operated on since 1879, were in children under seven.

It was pertinent to inquire, then, what cases could safely be left to nature. In patients under two years old, he thought, no mechanical appliances or operations should be resorted to, unless the deformity was extreme. In those under three, in which there was a moderate degree of deformity, the case should also be left to nature. He was in the habit of taking the outlines of the limbs for future reference, and then if, on careful examination, the condition of the bones indicated that there was a chance for spontaneous improvement, wait to see how the case progressed without treatment. As knock-knee and bowlegs are, as a rule, due to rachitic disease, it was reasonable to expect much from medicinal and hygienic treatment, and he had known many children affected with these deformities to recover rapidly and completely, simply by removal to the country for a time. In the way of medication, the phosphates of lime and soda had been supposed to be useful; but he felt satisfied that their only beneficial effect was on the digestive function. The efficiency of cod-liver oil in these conditions had long been fully recognized.

In regard to the use of manual force, he said that a resort to it was demanded in cases in which the parents of the child were too poor to purchase the necessary apparatus, or too improvident for its proper management, when there was little time to effect a cure, and when, under either of the above circumstances, the bones were in a condition to yield to its application. To illustrate this, he related a case of a rachitic child, four years old, suffering from genu-valgum, whose parents were poor Italians. At the New York Polyclinic, he fractured the femur, the tibia, and fibula of each leg, and, having straightened the limbs, he surrounded them with borated cotton, and applied a plaster-of-Paris dressing. The operation was followed by no bad consequences, and on the seventh day he removed the plaster of Paris. The right leg was not entirely straight, though it could readily be made so under the application of pressure; but the left was found to be completely straightened. In the meanwhile, the child was constantly treated with cod-liver oil and the syrup of the hypophosphites. Subsequently some curvature of the femurs was found, and this he had no doubt was due to the fact that the splints had not been carried above the hips. It would, therefore, be necessary to fracture them again, and this time after the operation he would have the child placed in a wire cuirass, so as to make sure of the result.

Having referred to Macewen's opposition to splints, he said that in the matter of mechanical appliances Mr. William J. Little stood at the head of orthopædic surgeons. In the Forty-second Street Hospital the ostensible rule was that three years was the youngest age at which retentive splints were to be resorted to; but practically this limit was five years. Little assigned really no limits to these, and he had undoubtedly accomplished cures with them in many cases in which most surgeons would have employed operative procedures. All the springs now in use acted on the principle of bringing force to bear against the convexity of the curve at its apex, and probably the simplest form of portable splints that had been devised are those in use at the Forty-second Street Hospital. Having spoken of their efficiency, and having referred to various other forms of apparatus, Dr. Gibney mentioned that Dr. Poore placed the percentage of cures at less than thirty per cent.

He then briefly spoke of osteoclasis, which, he said, had never been popular with surgeons in this country. In France, on the other hand, the procedure was very highly esteemed, and the osteoclast of M. Robin, of Lyons, was certainly a very admirable instrument.

Passing on to the subject of osteotomy, he alluded to the paper which Macewen, of Glasgow, had read before the recent International Medical Congress at Copenhagen, and epitomized in an admirable article in THE MEDICAL NEWS of November 1st. Out of 820 personal operations suppuration occurred in only 8 cases; the cause in 6 being pressure or some extra force applied under accidental circumstances. Five of the patients died, but in not a single case of these was death due to the operation. Having referred to the danger of arterial hemorrhage in osteotomy, Dr. Gibney said that in one instance he had himself met with alarming hemorrhage from the bone itself. It was the only case in which he had seen any hemorrhage. Of his own cases, one was that of a patient with anterior tibial deformity, a condition which he had never seen at all affected by mechanical appliances. In this instance the latter had been tried for twelve months previous to the operation. He had performed nine linear and two cuneiform osteotomies. At the Polyclinic he was accustomed to send the patients home as soon after the operation as the plaster-of-Paris dressing was dry.

The lessons which he had learned from his experience with osteotomy are the following:

1. Exaggerate the curvature of deformity.
2. Examine the limb at the end of a week to ascertain whether the amount of the curvature is the amount desired.
3. Do not hesitate to refracture by manual force if it be necessary.
4. In dispensary cases do all the operating you propose at one sitting.

He was accustomed to use strict Listerism at his operations, and he thought that three months was not too long for the patient to wear mechanical support after osteotomy. Macewen, by the brilliant results that he had achieved, had convinced all that supracondyloid division of the femur was the only osteotomy for genu-valgum.

DR. JOSEPH C. BRYANT said that he agreed with Dr. Gibney that there was a large number of cases of the deformities referred to in the paper which could safely be left to nature. No better proof of this could be desired, he thought, than would be furnished by a visit to the quarters of the city occupied by the poorer classes of negroes and Italians. In these localities would be found large numbers of children suffering to a marked degree from these conditions; and the great majority of them would undoubtedly get well without any treatment whatever. The matter of leaving such deformities to nature involved a consideration of their cause. The exact cause had not as yet been fully determined, but the weight of the body had perhaps something to do with the etiology. To muscular contraction had also been attributed some part in the causation; but this was open to question. But if the weight of the body or muscular contraction were the real cause, it was not right to leave these cases to nature, and something ought to be done.

Having spoken in passing of the importance of medication and hygiene, Dr. Bryant went on to say that if in a case of bowlegs he found on pressing them that the bones were more or less springy, he was in the habit of rectifying the deformity by repeated forcible pressure upon the point of greatest convexity. In a child of eight years, with marked anterior tibial curvature, he employed anæsthesia, and by means of force, after section of the tendo Achillis, he reduced the deformity two-thirds. Then, repeating the pressure without anæsthesia three times a week, the result was that in six weeks' time the tibia was perfectly straight. In cases of this kind he thought manual force was better han osteotomy, and in this particular instance no less than three osteotomies would have been required.

In cases suited to apparatus, he preferred a spring of considerable force, but yet not too strong. Osteoclasis, up to the present time, had been very little used in New York, and he himself would certainly never resort to it in the vicinity of a joint, as would be necessary in genu-valgum. If, however, he had to deal with a marked tibial or femoral curve, with its apex near the centre of the bone, he thought the procedure would prove satisfactory, except in cases of anterior curvature of the tibia, when the force would come directly upon the sharp crest of the bone. Osteotomy, performed with antiseptic precautions, was in his opinion one of the advances in surgery of the century. He had never seen the slightest bad result from it, and in a number of operations which he had performed at Bellevue Hospital he had never met with a drop of pus. The oldest patient in whom he had performed supracondyloid osteotomy was sixteen years of age, and in this instance the temperature after the operation went up for a short time to 102°. The case did perfectly well, however, and he had been informed by other surgeons that such a rise of temperature was not at all infrequent after osteotomy. As to the applicability of this operation, it seemed appropriate in all those cases which had reached a stage in which consolidation of the bones had taken place. From the facility and safety with which it could be performed, however, there was some danger, he thought, of there being too many osteotomies performed.

DR. CHARLES T. POORE thought that there was no question that in the earlier stage of rachitis the bones could be bent, and sometimes this was the case, to a certain extent, at an age much greater than was ordinarily supposed to be the case. But if the deformity was due to enlargement of the condyles, and the bones had become hardened, the bones could not be bent, and he had never seen recovery. Knock-knee and other deformities of bones from rachitis were, he believed, much more common now than formerly. In regard to osteotomy, he thought that those cases in which there had been trouble from hemorrhage resulting from injury to arteries were really due to accidents which might have been prevented. In his own cases he never kept his patients in bed more than five weeks, and usually took off the plaster of Paris at the end of the fourth week. He had never seen any recurrence of the deformity after osteotomy. In regard to operations for bowlegs, osteoclasis, he thought, was better than manual force; but he would never fracture the bone within three inches of the condyles. He had never seen an accident from it, and he had never failed to correct the deformity for which it was done. He had had no experience in trying to bend bones without an instrument, and he thought that it must be very hard work. In performing osteotomy he did not use Listerism strictly, nor did he dress his wounds after the plan of Macewen. It was always his endeavor to secure primary union.

Dr. M. H. Henry said that at the Emigrant's Hospital, of which he had been surgeon-in-chief for a number of years, he had very often observed these deformities in young children born in Europe; but that after they had been in the institution for some time they always got well. The troubles were mainly of rachitic origin, due to defective nutrition, and disappeared spontaneously under the use of good food and the hygienic conditions with which the children were surrounded.

Dr. M. J. Roberts thought that it was probable that many of these cases that were left to nature died in early life, as it was well known how large the rate of mortality was among young children, especially in large cities, and it was reasonable to suppose that among the large number that were annually carried off, many of them were those suffering from constitutional diseases like rachitis, which gave rise to the deformities in question. Hence it was not surprising that comparatively few adults with knock-knees or bowlegs were met with. But even in those who were supposed to have entirely recovered, he believed that the recovery was often incomplete, and that although the deformity might not be at all marked, it was liable to give rise to trouble. Thus he had seen very serious symptoms caused by a slight degree of in-knee. He then exhibited a drawing representing five members of one family, none of whom had ever been subjected to treatment. All were affected with deformity of the lower extremities; but while this was most marked in the younger children, in the oldest, a lad of fourteen, it was still quite perceptible. He also exhibited a number of photographs showing similar deformities in adults.

He could not agree with Dr. Gibney in the statement that in most bowlegs there was a continuous curve from the pelvis to the foot, but maintained that the deformity was confined largely to the epiphyses, while the shafts of the femur and tibia were straight. This, he said, he had demonstrated by a number of dissections, and he now exhibited photographs of four pairs of legs in which he had made the dissections to show this point. The bow, he said, was really due to the fact that the principal changes had taken place at the articulation and between the epiphysis and the shafts, where there was the greatest motion; and by means of a paper diagram of a normal leg, he showed by making sections above and below the knee-joint how easily deformity could be produced by enlarging the epiphysis.

He did not believe that any of these cases ought to be left entirely to nature, as he was firmly convinced that every one of them could be aided. If they were to get well in a year alone, they could be cured by treatment in a much shorter time, and every case should be placed under treatment in which the conditions were at all favorable for carrying it out. While manual force was applicable in a limited number of instances, where the bones were unusually soft, he believed that nearly all the cases of these deformities could be absolutely cured by mechanical appliances. Having described various forms of apparatus, he went on to speak of osteotomy. The great difficulty that had always been experienced in dividing bones satisfactorily, he said, he had overcome by means of an electro-osteotome which he had devised. It consisted of a very delicate saw, worked by Griscom's electro-motor, and by means of it he cut through the femur of a child in three seconds, and that of an adult in five seconds. During the past year he had performed forty-five electro-osteotomies with perfectly satisfactory results.

Dr. Hopkins mentioned a case in which some years ago he had performed resection of the joint for the relief of knock-knee. The result, which was fairly good, would have been better, he thought, if the operation could have been performed with antiseptic precautions.

The President said he should like to inquire what influence, if any, sex had on the disease, and the probability of a cure. It had seemed to him that mothers had directed his attention to deformities of this kind in their children more frequently in the case of girls than of boys. He had seen one case of bowlegs in a young lady of eighteen, but it did not seem to have been due to rachitic disease.

Dr. Gibney, in closing the discussion, said that, as regards the influence of sex, he thought there were about an equal number of male and female children affected. As regards the question of relative curability in the two sexes, he could not say without consulting the statistics of the subject. One bad result had been noticed in women, and that was the occurrence of flat-foot in those who had been affected with bowlegs when they were children. The point made by Dr. Roberts, that one principal reason why so few adults were seen with these deformities was because so many of the cases died in early life, he thought, could hardly be substantiated. In Glasgow, where Macewen resided, one could hardly walk a block without encountering a number of adults with bowlegs or knock-knee; so that there, at all events, a great many such cases did not die young. In his paper, he had not touched at all upon cases of what Little called *atonic* knock-knee, and the adult cases to which Dr. Roberts had alluded were, no doubt, of this kind. He had himself seen such cases, usually in very stout men; but he did not think it would be found that they had suffered from the deformity as children.

CORRESPONDENCE.

THE MANAGEMENT OF THE OCCIPITO-POSTERIOR POSITION IN VERTEX LABORS.

To the Editor of The Medical News.

Sir: At the ninth annual meeting of the American Gynecological Society, held in Chicago this fall, and reported by you in your issue of October 18th, Dr. Edward W. Sawyer, of Chicago, reports thirty-seven cases of occipito-posterior positions, vertex presentations, in which rotation forward of the occiput failed to take place. In seventy-seven labors which I have observed, this occurred three times. In one case the mother was a primipara, in another it was the second, and in the third it was the fourth confinement. There was nothing unusual in the course of any one of these cases until the time came for the rotation forward of the occiput; then this failed to take place; the occiput passed into the hollow of the sacrum and the brow came down behind the symphysis. In each the following plan was successfully followed, in the first by Dr. Geo. W. Murdoch, and in the others by myself.

Ether was given to full anæsthesia. One hand was passed into the vagina and grasped the head, and the other was pressed upon the fœtal mass through the abdominal walls. It was then found very easy to push the fœtus up so that the head was above the superior strait, rotate it into an occipito-anterior position and flex it. Two courses were now open. Put on the forceps and deliver; or, stop the ether, and still holding the head by the hand in the vagina, wait the recurrence of pains and try to avoid the use of instruments. The latter was the plan selected, but in two cases it was necessary to use the forceps when the head came down on the perineum. The last did not require them. In all three cases mothers and children did perfectly well.

Leishmann, Playfair, and Dr. Sawyer all prefer an attempt to rotate the occiput forward, before resorting to the forceps; but no mention is made of the pushing of the fœtus upwards to render the rotation easier. It is possible to rotate without returning the head above the superior strait, but there is some doubt if the shoulders would readily follow. But little is lost by so returning it, for the parts are all fully stretched, and two or three pains suffice to bring the head again down on the perineum. This plan can, with the help of ether, be so easily followed, even after the brow has shown at the vulva, that it would hardly seem wise to put on the forceps and drag the head through, certainly endangering the perineum, and at the confessed risk to the child.

HARRY M. SHERMAN, M.D.

COLD SPRING ON HUDSON, PUTNAM CO., N. Y.,
November 24, 1884

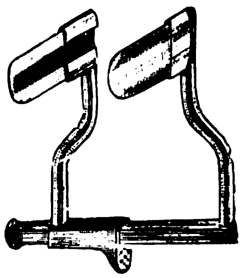
NEW INVENTIONS.

AN IMPROVED SELF-RETAINING NASAL SPECULUM.

BY JOHN N. MACKENZIE, M.D.,
SURGEON TO THE BALTIMORE EAR AND THROAT CHARITY HOSPITAL.

THE simple principle upon which this instrument acts is that involved in the ingenious eye speculum[1] and gag[2] devised by Dr. Russell Murdoch, of Baltimore.

Into the nasal extremity of each blade is fitted an ivory shield, which may be replaced, if necessary, by other dilating apparatus. At right angles to the distal end of one blade is a rectangular bar, upon which a well-fitting square sleeve, attached to the distal extremity of the other, slides with ease. This sliding motion is accomplished by means of slight pressure on the button or handle which juts out from the sleeve. In using the speculum, the ivory shields are brought together, introduced closed into the nostril, and separated by pressure on the button with the forefinger, counter-pressure being brought to bear on the free extremity of the bar with the thumb, or *vice versâ*, according to the position in which the blades are introduced.



The pressure of the sides of the nostrils arrest the sleeve at any desired point, thus furnishing the simplest possible principle of self-retention. A touch upon the button releases the blades from their fixed position, thus permitting instantaneous removal of the instrument. The upper and under surfaces of the rectangular bar are roughened to increase the amount of friction.

The speculum is made by Willms & Co., of Baltimore.

OBITUARY.

SAMUEL M. BEMISS, M.D.

IN the death of Prof. Samuel M. Bemiss, M.D., of New Orleans, the medical profession of the United States has lost one of its most enlightened and earnest members, the State a valuable citizen, the Tulane University of Louisiana a capable and instructive professor, the sick poor of the city a sincere and self-sacrificing friend, and his wife and children a genial companion and devoted father and husband. To all human appearances, only the day before his fatal seizure, his splendid physique manifested no sign whatever of the approaching catastrophe, and his sudden taking off came, therefore, like a dreadful cyclone, sweeping away in its remorseless fury the treasures of a well-stored mind and the living example of nature's noblest virtues.

The circumstances immediately preceding and accompanying his death were remarkable. He had been engaged for a month during the preliminary clinical course in teaching in the wards and amphitheatre of the great Charity Hospital. On Monday, November 17th, the didactic course opened, but was preceded by his clinical lecture at 8.30 A. M. He appeared at the appointed hour, but before entering the amphitheatre he took a seat for a few minutes in the medicine-room, remarking, somewhat incidentally, to the assistant house surgeon that his heart, which had been slightly disturbed in its action two weeks before, was again giving him some trouble. However, he responded to the ringing of the bell, and lectured for an hour upon apoplexy associated with affections of the heart. He then walked to his office, a few blocks distant, and after remaining there for an hour proceeded home, where he was subsequently persuaded to lie down. At 5 P. M. he dictated a letter of advice to a physician in the country concerning a patient who was about to return home; and a few moments afterwards, without any warning whatever, his respiration became suddenly embarrassed, and after a few gasps ceased forever. The diagnosis made by his son, a competent physician, who was near him, was apoplexy associated with some cardiac derangement; but as no autopsy was made, and an examination two weeks previously by two of his colleagues revealed no appreciable organic change, the precise nature of the latter remains unsolved.

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[1] Transactions of Amer. Ophthal. Soc., 1883.

[2] THE MEDICAL NEWS, Sept. 6, 1884.

Dr. Bemiss was born near the small village of Bloomfield in Nelson County, Kentucky, on October 15, 1821, of parents noted in the neighborhood for their intelligence, energy, and independent Christian character. He was instructed by private tutors, but at the same time was strictly indoctrinated by his worthy parents in the great principles of morality and religion. Notwithstanding the presence of slaves in the household, he was also taught, by precept and example, that manual labor is not in itself degrading, but oftentimes the reverse, a fact which will largely account for his well-known contempt for those who consider and treat the workingman as an inferior being. It was during this formative period of his life, while living in a sparsely settled country, and roving at will through the native forests which margined his rural home, that he became imbued with that strong love of nature which was a source of so much pleasure to him in later years when, at long intervals it is true, he quietly slipped away from the city accompanied only by two or three members of his family and spent a few days in floating listlessly upon the smooth waters of Lake Pontchartrain or wandering in the silent, solemn woods which mark the shores of the Langipahox River.

Before he had attained his majority, and with a mind eager for that knowledge which relates to man, he determined to study medicine, and for this purpose entered the office of Dr. Samuel Merrifield, in his native village. Thence in due time he was sent to New York, where he subsequently graduated in the medical department of the University in the spring of 1846. Returning home, he offered for practice and soon secured by his undoubted acquirements the professional confidence of his neighbors, notwithstanding their acquaintance with him from infancy Not contented with this secluded life he removed in 1853 to Louisville, where his recognized abilities commanded in 1858 the chair of clinical medicine in the University of Louisville, from which he was transferred in 1859 to the professorship of hygiene and medical jurisprudence, and a few months later to that of materia medica and therapeutics in the same institution.

Convinced after mature reflection that it was his duty to join the Confederate cause, Dr. Bemiss left his family in Kentucky in 1862, evaded the Federal pickets, and made his appearance within the Southern lines. After a brief visit to the Army of Northern Virginia, where he had the pleasure of making the personal acquaintance of General Robert E. Lee, he returned to the West, and was commissioned as a surgeon in the Army of Tennessee. After the battle of Chickamauga he was created Assistant Medical Director of Hospitals in Northern Georgia, and in 1864 Medical Director of the Hospitals in the rear of the Army of Tennessee. The following year, the war having terminated disastrously to the Confederate States, he mournfully turned his horse's head toward his native State, and reaching Louisville again opened an office there. In less than a year he was elected to the professorship of physiology and pathology in the University, but being called a short time afterward to the chair of theory and practice of medicine and clinical medicine in the medical department of the University of Louisiana, he removed with his family to New Orleans in the fall of 1866. Here he passed the remainder of his days teaching medicine acceptably in the wards and amphitheatre of the Charity Hospital and in the hall of the University, practising his profession with rare ability and success, bearing the burdens of various public trusts, and maintaining all the while the cheerfulness and contentment of one who is convinced that he is in the line of duty. Of numerous demands made upon him for service outside of his regular duties, one of the most onerous was that imposed upon him by the Marine-Hospital Department of the United States in the fall of 1878, when he was appointed chairman of a committee for investigating and reporting upon the origin and progress of the epidemic of yellow fever which was then subsiding. Again in 1879, when the National Board of Health was created by Congress, he was selected by the President of the United States as one of the members, and notwithstanding the vast amount of labor which this position demanded for a few years, and the numerous and sore vexations to which he was constantly subjected by the enemies of the Board—vexations of which no one unacquainted with the daily history of the office can form an adequate idea —he boldly bore the brunt until the day of his death, although for several years his written resignation was in the hands of the President of the Board. Among other numerous positions which he held it is only necessary to mention that he was one of the vice-presidents of the American Medical Association in 1868.

Dr. Bemiss was a frequent and valuable contributor to the current literature of the profession. He published a most excellent article upon croup in the Louisville *Review* of 1856, but the most noted of his earlier papers was his report upon "Evil Effects of Marriages of Consanguinity" made to the American Medical Association, and printed in the *Transactions* of 1858—a paper which cost him an immense amount of original and careful research, but for which he considered himself amply compensated in the good which it accomplished, and the commendations bestowed upon it both abroad and at home. During his residence in New Orleans he was constantly busy with his pen jotting down and subsequently publishing the results of his observation and experience. These contributions were generally made in the pages of the New Orleans *Medical and Surgical Journal*, of which he was the senior editor for several years. Only a few weeks before his death he completed an elaborate but thoroughly practical article upon "Malarial Fevers" for the *American System of Practical Medicine*, now in course of publication in Philadelphia. His experience in this class of diseases in hospital and private practice was probably unsurpassed in this country, and the profession is fortunate in having it upon record.

NEWS ITEMS.

NEW YORK.

(From our Special Correspondent.)

The System of Life Insurance among Medical Men, which exists in this city, is now a most perfect one. The Society for the Relief of the Widows and Orphans of Medical Men now numbers nearly five hundred members, and the payment of four hundred and seventy-five dollars is made to the heirs of a deceased member.

The Danger of Canned Goods.—A number of medical men met at Columbia College the other night to discuss the dangers of canned food, and contamination by metal. The conclusion arrived at was that the alleged evils were very much exaggerated.

"Crowners' Quest."—It is to be regretted that no such excellent system of medical examination in coroners' cases exists in this city as is found in Boston and other cities. Coroners' inquests are little better than they were twenty years ago. The coroners are usually politicians of the worst stamp, who pick up all sorts of men to do their work, and the investigations of these people bear no scientific value. It is to be hoped that the bill which is to be presented to the Legislature this winter, providing for a Board of Examination, who are to be appointed by the Mayor upon the suggestion of the medical colleges, will be passed, and something like a decent system of medico-legal inquiry may be inaugurated.

CANADA.

(From our Special Correspondent.)

Canadian Medical Schools.—The various medical schools in Canada have commenced work with a full complement of students. Trinity College, Toronto, is said to have one hundred new students, and the Toronto School of Medicine almost as many. McGill Medical School has more new students than ever before (between eighty and ninety). It was expected that owing to the enforcement, by McGill University, of a full four years' University course (a year with a doctor not, as heretofore, counting), with a compulsory summer session, would reduce the number of students for a year or two, but it is gratifying to learn that a more rigid course has attracted the best students in larger numbers. In the introductory addresses before the Toronto schools the advantages of a four years' university course were much dwelt upon, but, as a matter of fact, the large majority of students attending the Toronto schools are three years' men, the fourth year being made up by a preliminary year's study (!) with a doctor. The only proper way for the Toronto schools to prove that their desire for a four years' course is sincere, is to make such a course compulsory, and not allow the farce of studying a year with a doctor to count as equal to a year's college and hospital work.

The women's medical colleges in Toronto and Kingston opened with fair classes, and their finances were reported in a prosperous condition.

Anatomy of the Cat-fish.—The able Professor of Biology in Toronto University has just issued a complete monograph on the *Anatomy and Histology of the Cat-fish*. In this work he has been assisted by Prof. McMurrich, of Guelph Agricultural College, and Messrs. A. B. McCallum and F. McKenzie. The monograph will be a most valuable addition to our knowledge of this peculiar class of fishes. Many new points of special interest are touched upon, and others formerly obscure made clear. It will be an invaluable guide to workers in this field.

CHICAGO.

(From our Special Correspondent.)

A Medical Department in the Chicago Public Library.—Twelve hundred bound volumes of medical books have been placed in the Chicago Public Library, through the agency of the Chicago Medical Society, and the efforts of physicians of Cook County. These books are a carefully chosen collection of the best known *recent* medical authorities in the English, French, and German languages.

This determined initiatory movement toward founding a medical library in the Northwest, is due largely to the energy of the Committee on Library of the Chicago Medical Society, of which Drs. Edmund Andrews, F. C. Hotz, and David W. Graham are members. The funds for the purchase of books have been derived from annual appropriations by the Chicago Medical Society ($500), and voluntary contributions from physicians, dentists, and druggists of Cook County.

ST. LOUIS.

(From our Special Correspondent.)

The American Public Health Association Meeting.—The excitement aroused by the great national conventions which have centred here of late, and which the medical profession have also shared, has blown over, and the usual work is again going on. The practitioner has resumed his routine work, and is turning over in his mind what he has heard at the meeting of the American Health Association about germs and cholera.

We are certainly grateful that this convention was held in our city, and can but regret that it was not accorded a still more hearty welcome; but, owing to some trifling circumstances—such as the location of the hall at which the meetings were held, and the fact that sufficient announcement was not made—the profession of the city did not find their way to the distant hall until the closing session was drawing nigh, and then could but regret that they had not participated from the very first.

The building in which the meeting was held, though most excellently adapted for the purpose, with a good hall, convenient committee rooms, and all that is necessary for the pleasure and convenience of guests, is situated in rather a distant part of the city, out of the usual route of the great mass of our practitioners.

A lively interest was taken in its proceedings, and it is to be hoped most sincerely that our worthy city officials were stirred up to a realization of the importance of proper sanitary measures; and just at present, with the Asiatic scourge slowly progressing westward, their work should begin. Our streets and sewers need looking after, though our streets are improving, and our sewer system is a most excellent one, partially owing to the natural advantages of drainage afforded by the many hills upon which the city is built, and by good engineering it has been made one of the best in the world. Yet more has to be done. Whatever may be done to protect the city from epidemics, or from the importation of disease, it all centres in one word—cleanliness. At all times advisable, but now more than ever; and to obtain this end, a liberal supply of water is certainly most important. Notwithstanding the great Mississippi River sweeps over some twelve miles of our city front, water is expensive; much more so than in most large cities. Next to cleansing the streets and sewers, no better measure could be adopted than that of giving a liberal supply of water to our citizens, and where it is most needed—in the densely populated, poorer districts—the high price of water results in a use altogether too gingerly for the public good. We need not fear the waste of water, as it is this waste which helps to cleanse pipes and sewers. The high price of water results in many consequences detrimental to the health of the city, one of the very worst of which is the continued use of wells, and not only the continued use of those already existing, but new ones are added to the number, so that we have an abundance of these breeding centres of disease. They are, of course, for the most part situated in the densely populated parts of the city, in the courts of tenement houses, near the numerous privies belonging to them. 7000 such wells supply water to our citizens in the main to the poor, to those who are obliged to economize, and who cannot afford to pay high water rates.

7000 wells in this city of 400,000 inhabitants—a larger number, it is claimed, than in any other city of similar size in this country. Thus, by the coercive demands made for the use of water, many of our citizens are forced to seek their supply from other sources. The city looses a large revenue, and offers a premium for the spread of epidemics. What is more conducive to the rapid and successful dissemination of disease—especially epidemic diseases—than such wells in the courts and yards of tenement and other houses, not kept in too cleanly a condition, surrounded by vaults, stables, cesspools, and sewers?

We must do away with these wells and waters, and more successfully than by laws and sanitary inspectors will this be accomplished by incessant cheapening and regulating the water supply; by correcting the mismanagement or fraud in this department. The high rates have cost a much greater loss of revenue to the city by forcing large manufacturing establishments to bore artesian wells, or in other ways supply their own water.

Cholera Prospects.—We certainly have reason to expect a visitation of that dread disease—cholera—though not necessarily in a severe form, as it has taken its usual course, though the premonitory symptoms frequently observed have not been so well marked; violent diarrhœa and aggravation of abdominal symptoms have repeatedly preceded the advent of cholera, appearing the year before its coming, while the scourge was at its height upon the old continent. Some epidemics, however, have come without any such warning. Under such circumstances, we cannot help calling attention to the fact that during the past summer diarrhœa was very common; not of a serious nature; mostly not even such as to require the interference of the physician; but it is certainly a fact worthy of note, as the summer was exceptionally cool and pleasant. The diarrhœa of children—summer complaint—which usually causes such havoc at this season of the year in the hot, crowded portion of the city, dealt more mercifully with the little ones, but among adults abdominal complaints—mild forms of diarrhœa and dysentery—were quite common, certainly much more so than they are apt to be—apparently a slight forewarning.

The work of the medical societies has been thoroughly inaugurated for the winter. The meetings of societies are well attended. The St. Louis Obstetrical and Gynecological Society has come out of its shell and added quite a list of prominent gentlemen in general practice to the number of its members, whilst until now it was open only to those who were more directly engaged in the practice of obstetrics and diseases of women. The St. Louis Medical Society and the Medico-Chirurgical Society are made interesting by the active participation of the members.

The medical colleges are in full blast, and the handsome building erected by the new Polyclinic is rapidly nearing completion. If the work is carried on in the same spirit that it has been inaugurated, and with the same zeal, it promises to be not only one of the finest, but also one of the best, institutions of its kind—a great success in every way, certainly. The character of the gentlemen engaged in the enterprise vouches for this. They have the good will of the profession, and rarely has the progress of a building been watched, the inauguration of a new enterprise been looked forward to with more interest by the profession of the Southwest than is this.

The Ninth International Medical Congress, to be held in Washington, D. C., in 1887.—The Committee on Organization of the Ninth International Medical Congress met in Washington, D. C., on November 29, 1884, for the determination of the general plan of the Congress, the election of Officers of the Committee, who will be nominated to fill the same offices in the Congress, and the consideration of questions of finance.

The following rules were adopted:

1. The Congress will be composed of members of the regular medical profession, who shall have inscribed their names on the Register of the Congress, and shall have taken out their tickets of admission. As regards foreign members, the above conditions are the only ones which it seems, at present, expedient to impose.

The American members of the Congress shall be appointed by the American Medical Association, by regularly organized State and local medical societies, and also by such general organizations relating to special departments and purposes, as the American Academy of Medicine, the American Surgical Association, the American Gynecological, Ophthalmological, Otological, Laryngological, Neurological, and Dermatological Societies, and the American Public Health Association; each of the foregoing societies being entitled to appoint one delegate for every ten of their membership.

The members of all special and subordinate committees, appointed by the General Committee, shall also be entitled to membership in the Congress, together with such other persons as may be specially designated by the Executive Committee.

All societies entitled to representation are requested to elect their delegates at their last regular meeting preceding the meeting of the Congress, and to furnish the Secretary-General with a certified list of the delegates so appointed.

2. The work of the Congress is divided into eighteen Sections, as follows, viz:

1. Medical Education, Legislation, and Registration, including methods of teaching; and buildings, apparatus, etc., connected therewith. 2. Anatomy. 3. Physiology. 4. Pathology. 5. Medicine. 6. Surgery. 7. Obstetrics. 8. Gynecology. 9. Ophthalmology. 10. Otology. 11. Dermatology and Syphilis. 12. Nervous Diseases and Psychiatry. 13. Laryngology. 14. Public and International Hygiene. 15. Collective Investigation, Nomenclature, and Vital Statistics. 16. Military and Naval Surgery and Medicine. 17. Experimental Therapeutics and Pharmacology. 18. Diseases of Children.

3. The General Meetings will be reserved for the transaction of the general business of the Congress and for addresses or communications of scientific interest more general than those given in the Sections.

4. Questions which have been agreed upon for discussion in the Sections shall be introduced by members previously nominated by the officers of the Section. The members who open discussions shall present a statement of the conclusions which they have formed as a basis for debate.

5. Notices of papers to be read in any one of the Sections, together with abstracts of the same, must be sent to the Secretary of that Section before April 30, 1887. These abstracts will be regarded as strictly confidential communications, and will not be published until the meeting of the Congress. Papers relating to questions not included in the list of subjects suggested by the officers of the various Sections will be received. Any member, after April 30th, wishing to bring forward a subject not upon the programme, must give notice of his intention to the Secretary-General at least twenty-one days before the opening of the Congress. The officers of each Section shall decide as to the acceptance of any communication offered to their Section, and shall fix the time of its presentation. No communication will be received which has been already published, or read before a society.

6. All addresses and papers, read either at general meetings or in the Sections, are to be immediately handed to the secretaries. The Executive Committee, after the conclusion of the Congress, shall proceed with the publication of the *Transactions*, and shall have full power to decide which papers shall be published, and whether in whole or in part.

7. The official languages are English, French, and German.

No speaker shall be allowed more than ten minutes, with the exception of readers of papers and those who introduce debates, who may occupy twenty minutes.

8. The rules, programmes, and abstracts of papers will be published in English, French, and German.

Each paper or address will appear in the *Transactions* in the language in which it was delivered by the author. The debates will be printed in English.

9. The officers of the General Committee on Organization are a president, three vice-presidents, a secretary-general, and a treasurer, and those elected to these positions will be nominated by the General Committee to hold the same offices in the Congress. All vacancies in these offices shall be filled by election.

10. There shall be an Executive Committee, to be composed of the President, Secretary-General, and Treasurer of the General Committee, and of four other members, to be elected by the General Committee. The duties of the Executive Committee shall be to carry out the directions of the General Committee; to authorize such expenditures as may be necessary, and to act for the General Committee during the intervals of its sessions, reporting such action at the next meeting of the General Committee.

11. There shall be a Standing Committee on Finance, composed of five members, to be appointed by the President, subject to the approval of the Executive Committee.

12. Those who are elected as chairmen of the several Sections shall be thereby constituted members of the General Committee.

The officers elected are as follows:

President.—Dr. Austin Flint, Sr., of New York.

Vice-Presidents.—Dr. Alfred Stillé, of Philadelphia; Dr. Henry I. Bowditch, of Boston; Dr. R. P. Howard, of Montreal, Canada.

Secretary-General.—Dr. J. S. Billings, U. S. Army.

Treasurer.—Dr. J. M. Browne, U. S. Navy.

The Executive Committee (the President, the Secretary-General, and the Treasurer, ex-officiis).—Dr. I. Minis Hays, of Philadelphia; Dr. A. Jacobi, of New York; Dr. Christopher Johnston, of Baltimore; Dr. S. C. Busey, of Washington.

The Executive Committee will proceed at once to complete the work of organization.

THE EFFECT OF SANITATION IN GENOA.—The United States Consul at Genoa, in a recent communication to the State Department, gives an interesting account of the manner in which the cholera plague was managed in that city. After stating that the disease had disappeared from the city and province of Genoa, he says: "To summarize briefly the manner in which the authorities fought against its entrance into Genoa and the stubborn contest waged till the scourge was driven from the city: Since the outbreak of the cholera at Toulon and Marseilles a continual purification of streets, alleys, private and public houses, has been kept up, the most powerful disinfectants being used for the purpose, which has made the city all summer, as it is to-day, one grand smelling-bottle of sulphur, chlorine, etc. Impure water, or water supposed to be so, was shut off from the city; stale fruits and vegetables offered for sale were seized and destroyed; this year's wine crop was not allowed to be brought into Genoa, and all wine-shops were forced to be closed at 8 P. M. daily. The rules were rigid in regard to household cleanliness and the use of disinfectants in whitewash, and if the owner of an establishment of any size heeded not the orders of those in authority the work would still be performed and at the expense of the proprietor. To-day, without hesitation, the people acknowledge and give their brave Mayor credit for it, that had not all these precautions been taken, Genoa would have a more lamentable record than present statistics of the epidemic show.

"To the above I beg to add certain conclusions of my own, based upon personal observation and investigation during the ravages of the cholera here, the summary of which may be useful should the scourge strike any city or town in the United States. In my dispatch dated September 30, 1884, I reported that the water from the Aqueduct Nicolay was pronounced impure for causes set forth in said dispatch; to prove this statement was not far-fetched, I give the following items:

"In 300 cases of cholera, before this water supply was shut off from the city, there were 275 deaths, and all the victims had been using this water; since the water was stopped from entering Genoa the cases have been very few among those who were able to obtain good and wholesome food. Conclusion No. 1, therefore, shows how essential is pure water to good health. It is well known here that Sunday excesses among the laboring classes proved a powerful feeder to the epidemic; the bulletins of Mondays pointed this fact out too clearly to be disputed. Conclusion No. 2, then, suggests regular habits, whether at work or at play.

"Conclusion No. 3 is based on the opinions of medical advisers that substantial food has proven a better champion in battling with cholera than doctors' medicines.

"Summary: Granted a city or town has officials who energetically and fearlessly fight everything which has a tendency to prey upon public health; granted the people abuse not nature; let substantial food be one's daily portion; to all these things a frame of mind prepared to face calmly and bravely whatever trials and vicissitudes may cross one's path, and you have an armor that will, I am positive, in nine hundred and ninety-nine cases in one thousand, baffle the type of cholera which lately raged in Genoa."

YELLOW FEVER is reported to have disappeared from the Mexican coast. The United States Consul at Mazatlan states that there were but four deaths from this disease in that locality during the month of September, and none since the 17th of that month. He adds that "the disease has on the whole this year borne a sporadic character, no cases of contagion having been recognized, and has been exclusively confined to foreigners or strangers newly arrived in this locality. But four deaths from yellow fever are reported to have occurred at Havana during the past week.

THE ENGLISH CHOLERA COMMISSION.—DRS. KLEIN and GIBBES are prosecuting their bacterial researches in cholera in the pathological laboratory of the Grant Medical College, Bombay. They have identified the comma-bacillus of Koch, which is a pathological feature of cholera cases. They have been unable to find that the microphyte is possessed of any pathogenic properties.—*Indian Med. Gazette*, Oct. 1884.

PROF. SCHWENINGER.—The Medical Faculty of the Berlin University held a meeting on November 11th for the purpose of making another and a special protest against the appointment of the former Munich Docent to the Chair of Dermatology. The *Deutsche medicinische Wochenschrift*, of November 13th, hints that there is some talk of a resignation of the entire Faculty if the body-physician of the Chancellor be not removed from his position.

DR. LOUIS A. DUHRING, of Philadelphia, has recently been elected an Honorary Fellow of the Dermatological Society of London.

THE LATE PROFESSOR COHNHEIM.—A subscription list has been opened among the pupils of the late Prof. Cohnheim, for the purpose of erecting a suitable monument over his grave. Prof. His, of Leipzig, is treasurer of the committee. The list will be closed at the end of the year.

OBITUARY RECORD.—HENRY GIBBONS, M.D., of San Francisco, died at the old homestead of his parents, in Wilmington, Del., on November 6th, in the seventy-seventh year of his age.

Dr. Gibbons received the degree of M.D. from the University of Pennsylvania, in 1829, and located himself in Wilmington until 1844, then in Philadelphia until 1850, when he removed to California. He at once took a prominent social and professional position in San Francisco. He was one of the founders of the Medical College of the Pacific, in which he filled the Chair of Practice of Medicine. While in Philadelphia he was Professor of Physiology in the Philadelphia College of Medicine. He established the *Pacific Medical and Surgical Journal*, in which he has been lately associated with his son, Dr. Henry Gibbons, Jr. He was a member and ex-president of the San Francisco Medical Society, and of the California State Medical Society, was formerly a member, and then an honorary member of the College of Physicians of Philadelphia, and of the Academy of Natural Sciences, and was one of the corporators of the Woman's Medical College of Philadelphia.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 25 TO DECEMBER 1, 1884.

LORING, L. Y., *Captain and Assistant Surgeon.*—Assigned to duty as Post Surgeon, San Diego Barracks, San Diego, Cal.—*S. O. 135, Department of California*, November 19, 1884.

WILSON, GEORGE F., *First Lieutenant and Assistant Surgeon.*—Granted one month's leave of absence from November 20th (Vancouver Barracks, W. T.).—*S. O. 180, Department of Colorado*, November 18, 1884.

WALES, PHILIP G., *First Lieutenant and Assistant Surgeon.*—Now at Fort Cœur d'Alene, Idaho Territory, ordered for temporary duty at Vancouver Barracks, W. T.—*S. O. 179, Department of Colorado*, November 17, 1884.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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VOL. XLV. SATURDAY, DECEMBER 13, 1884. No. 24.

ORIGINAL LECTURES.

AMERICAN NOTES.[1]

BY LAWSON TAIT, F.R.C.S.,
CHAIRMAN OF THE CLINICAL SECTION.

A TRIP across the Atlantic has now been made so light an undertaking that it certainly cannot be the subject of a paper such as might have been written some twenty or five and twenty years ago, yet it seems that so few of our medical brethren on this side of the world take advantage of the facilities for the journey that it is quite possible I may be able to say something of interest to you about it. This is the more likely to be the case, as I undoubtedly was favored with most exceptional opportunities of meeting my professional brethren during my brief stay in America. I saw them under all kinds of circumstances—in their hospitals, in their class-rooms, in their private practice, and in their domestic circles—to the fullest advantage. They come over here in numbers so large that I had gained an impression that they must be a much richer body than we are, for it certainly is a very unusual thing in this country to find a practitioner, however eminent, taking a voluntary holiday for three or four months, or even as long as a year, yet we find this is quite a common luxury amongst our transatlantic brethren. I felt a considerable amount of curiosity upon this subject, and therefore I made inquiries, the result of which quite convinced me that this practice has not its origin in greater wealth or more freedom from competition; on the contrary, I found that it springs from an earnest and laudable desire to extend their knowledge and increase their powers of usefulness, that they may thereby stand higher in the estimation of their clients.

They have, in America, institutions which are quite unknown in Europe, called post-graduate colleges, and in this they seem to me to recognize, to a much greater extent than we do, that after graduation a doctor's medical education is just about to commence. Thus, in New York there is a large institution called the "New York Polyclinic," a school of clinical medicine and surgery for practitioners. It is described as an institution "in which there are didactic lectures given, practitioners only being admitted, and the class being limited, so that each case may be minutely and leisurely examined and thoroughly understood." The list of teachers includes some of the most eminent men in the various departments of practice in New York. It is managed by the board of directors, which includes Fordyce Barker, Frank Hastings Hamilton, Thomas Addis Emmet, Alfred L. Loomis, and T. Gaillard Thomas. I am certain there is nothing of this kind in Great Britain, and I never saw anything on the Continent with which I could compare it.

American doctors regard a run over to Europe every few years as a kind of class-taking in a cosmopolitan post-graduate college; and, from what I have seen of surgical practice on our own continent, in this country, and in America, I have no hesitation whatever in recording my opinion that it would be vastly beneficial to both Continental and English surgery if return visits were made in large numbers. I do not say we are lacking either in surgical culture or in earnestness of purpose, but on the great Western Continent there is an enthusiasm, a vivid interest in life, a regular go-aheadness, of which it would be well if we had a stronger infusion. The general summary of my visit to the United States and to Canada may be briefly put in the statement that no Englishman can obtain a reasonably full grasp of how the world is moving, or of the numerous phases of life, medical and surgical as well as others, until he has seen life across the Atlantic.

I purpose, in this paper, only to tell you in a running sketch what I saw from day to day, as I passed from one city to another, and to give you my general impressions of what I saw. This will answer the request made to me far better than any elaborate disquisition upon specific subjects, as such a paper would require a much longer stay, and a deeper critical investigation, than was possible in the time at my disposal.

Let me say here, in passing, just a word upon the subject which was raised by a paragraph in a recent number of one of our leading medical journals. I mean the position and competency of the surgeons on the Atlantic line steamers. Of course, I saw only two of these gentlemen—one on my outward journey, and the other on my return—but, if they may be taken as samples of their class, I do not hesitate to say that the insinuation contained in the paragraph in question amounted to a grave misstatement. It so happened that on both of my journeys there were cases on board of very considerable gravity, which, as a matter of course, formed a subject of professional conversation between myself and the surgeons of the ships, and I express my opinion, without the slightest hesitation, that for culture and professional competency these two gentlemen were quite equal to anything which is usually met with in our life on land. As regards their social position, they are treated thoroughly well by the companies in whose service they are, and by the passengers with whom they are in daily contact, and I would point out that no kind of life can be regarded as more harassing than that in which a man may be shut up for ten days with a case of the gravest possible kind, and absolutely removed from any advice or assistance from a professional brother, save by the accident of some of the passengers belonging to the same craft.

I never fully understood what a terrible thing this isolation may be until I had a little experience of it on my own account on board one of the steamers on the St. Lawrence. I left Montreal about eight o'clock in the evening for the night journey to Quebec. About one hour after I was comfortably in bed and asleep, I was roused by one of the officers of the ship, to whom my presence on board had been communicated, to come to the assistance of a young lady, who was said to be bleeding to death. I hurriedly dressed, and when I reached the ladies' cabin I found that the sufferer had accidentally broken a pane of glass with her elbow and had inflicted a severe wound on the fleshy part of the arm, from which she had lost a very large quantity of blood. This hemorrhage had, fortunately, been arrested by a rude kind of tourniquet, and round the couch were gathered a number of terrified priests and nuns, who were engaged in arranging a service for the dying. A steward held a smoking oil lamp, and the helpless captain stood by with an antiquated medicine chest. It became at once perfectly clear to me that the brachial artery had been injured, and so much blood had been effused amongst the tissues that the task of securing the bleeding points would be no easy one. The only instruments available were a bleeding-lancet, a pair of dissecting-forceps, and an old-fashioned aneurism-needle. Fortunately, amongst the drugs there was a small bottle of chloroform, and, after much difficulty in overcoming the terrors of those who surrounded me, I put the patient under chloroform and made an incision over the place where, after a lapse of some twenty years, I still had an idea the brachial artery might be found. Luckily for myself—still more luckily for the child—I stumbled upon the vessel and tied it, and I venture to say I never in my life was more devoutly thankful than to see that patient, three days afterwards, in a condition of convalescence. I have since been informed that her recovery is complete.

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[1] Read before the Birmingham Medical Society October 31, 1884.

After I landed, the first city I visited was Boston, perhaps the most famous of the cities of the States in medical as in other matters. Amongst the members of its medical profession were many old friends, and during the few days I stayed there, I think I may say I was enabled to see everything. In the first place, I saw a monument erected not so much to an individual as to the accomplishment of a great discovery, the establishment of a great principle. In the large square of the city a graceful erection of stone, known as the "Ether Monument," commemorates the date upon which it was ascertained that a vast amount of human misery could be relieved with mathematical certainty, and the date from which the greatest triumphs of surgery must be reckoned. I need not tell you that to myself this monument had a special interest, for without anæsthesia the whole realm of work to which I am devoted could never have been built up. Thence I was taken to the Massachusetts General Hospital, where I saw the sponge upon which ether was given to the first patient upon whom an operation was performed while in a condition of profound artificial sleep, and the theatre in which the great triumph was achieved remains much the same as it was then. The hospital itself is a magnificent building of granite built very much on lines of hospitals of its time. It was completed in 1821, and on account of its immense solidity the original building seems to have been very little altered, though many additions have been made to it. One of these is of a very noteworthy character, in the form of a new out-patient department recently erected at the cost of a young gentleman now studying medicine within its walls. Originally built outside the city, like our own institution in Summer Lane, the hospital is now surrounded, though not closely, by buildings on all sides, and the rapid growth of the population here as elsewhere in America may be well indicated by the statement made to me by one of my surgical friends, Dr. Homans, who is attached to the hospital. He is by no means an elderly man, yet he could tell me that whilst a youth he had often shot wild duck in the hospital grounds.

It was, of course, towards the practice of abdominal surgery that I directed most of my inquiries, and I found that in Boston its progress is rapidly becoming satisfactory. Dr. Homans visited me here about two years ago and he has confessed himself as having been largely converted to my views and methods of practice. He showed me a series of fifteen cases, some of them of an extremely serious character, all in progress of recovery, and this in spite of the enthusiastic Listerism to which he subjects all his patients. But his methods have become very much simplified by his experience in England, and he was good enough to admit his indebtedness to what he saw here. He does not perform any of these operations in the public hospital, most of them are accomplished in a small and very well-regulated institution, at the head of which is an English lady belonging to a Sisterhood. During the last twelve months he has performed twenty-seven ovariotomies without a death.

Perhaps the most interesting building in Boston for me was the new medical school, which forms a department of Harvard University. This building was opened on the centenary of the establishment of the school with an address by Dr. Oliver Wendell Holmes, the Emeritus Professor of Anatomy, and in the theatre devoted to the teaching of that science I saw a most striking portrait of the Autocrat of the Breakfast-Table, appropriately placed on the scene of his labors. He has secured for himself a niche high on the wall of fame as a poet and as a writer of fiction, but he has a still higher place in the memories and the affections of the thousands he has taught in this school.

Dr. Holmes delivered an address of marvellous eloquence at the opening of the new building of the medical school on the one hundredth anniversary of its existence, and some of the passages in it are worth quoting, alike for the brilliancy of their language and the quaintness of their thought. He tells us, for instance, that

> "We are in the habit of counting a generation as complete in thirty years, but two lives cover the whole century by an easy act of memory. I, who am now addressing you, distinctly remember the Boston practitioner who walked among the dead after the battle of Bunker's Hill, and pointed out the body of Joseph Warren amongst the heaps of slain."

He tells his hearers that then there were

> "Three teachers only, where we now have forty or nearly that number! But when the great University of Göttingen was established, the illustrious Haller filled the one chair of botany, anatomy, surgery, and medicine. I called it a chair; it was rather a settee of professorships."

The buildings themselves are certainly the most perfect in their arrangement and the most complete in their appointments of any buildings I have ever seen erected for a similar purpose, with, perhaps, the exception of the new buildings of the University of Edinburgh.

And finally of this beautiful building the Autocrat of the Breakfast-Table thus speaks at the close of his address:

> "It stands solid and four-square among the structures which are the pride of our New England Venice—our beautiful metropolis won by well-directed toil from the marshes, the creeks, and the lagoons which were our inheritance from nature. The magnificent churches round it let in the sunshine through windows stained with the pictured legends of antiquity. The student of nature is content with the white rays that show her just as she is; and if ever a building was full of light—light from the North and the South—light from the East and the West—light from above which the great concave mirror of sky pours down into it—this is such an edifice. And over all this rise the tall landmarks which tell the dweller in our streets and the traveller as he approaches that in the home of science, arts, and letters the God of our fathers is never forgotten, but that high above those shrines of earthly knowledge and beauty are lifted the towers and spires which are the symbols of all human aspirations, ever looking upward to Him the Eternal, Immortal, and Invisible."

On the library-table, bearing marks that it was not merely a presentation but a well-used copy, was Mr. Sampson Gamgee's book on fractures—a fragment of comfort for my provincial soul.

In the Warren Museum I saw many preparations put up by the hand of Warren himself—a hand the bony elements of which I had the privilege of touching, for with a quaint conceit entirely characteristic of the man he now himself forms part of his own museum. I need not remind you that the book which gave to the world the results of Warren's labors on the pathology of tumors was in some respects an epoch-making contribution to surgical pathology.

Of John Collins Warren, Oliver Wendell Holmes tells us that he was

> "A cool and skilful operator, of stern ambition, equipped with a fine library, but remarkable quite as much for his knowledge of the world as for erudition, and keeping a steady eye on professional and social distinction, which he attained and transmitted."

The main building of Harvard University is situated in the town of Cambridge, about four miles from the medical school, and it has been so often and so perfectly described that I need not say anything in repetition, save to speak of the new Memorial Hall, erected as a Valhalla for the alumni who died in defence of the unity of their country. I doubt if throughout the world there is to be found a nobler or more touching or probably more enduring memorial of heroism than the beautiful vestibule of this building, where, upon plain marble slabs, are recorded the names and places of death of the students of arts, law, medicine, and theology, who died in their country's service during the terrible years between 1861 and 1865.

By no means the least striking feature of American medical life is its abundant hospitality, a feature which runs through life generally in the United States. We have here our little medical social clubs, which have the useful functions of promoting good fellowship and a wider culture of professional interests, and very many of us belong to these. But I have never seen this feature of our professional life carried out to the same extent as it is to be seen across the Atlantic. It happened that the night on which I arrived in Boston was the time of one of the monthly meetings of such a club, and I was carried off to meet some fifteen or twenty men, the names of most of whom are well known on this side. There were physicians and surgeons and specialists and general practitioners, full of learning and of the quaintest fun. We started on a small steamer from the village of Waltham, where is situated the enormous factory for watches, and after some ten or twelve miles' run up the river, the beauty of which certainly equalled that of anything of the kind I have ever seen, we were landed at the country-house of Dr. Clarence Blake, where we were entertained right royally. While there I witnessed one of the most effective sights I ever saw, brought about by a fierce storm of lightning playing through the trees of the forest in which Dr. Blake's house is situated.

From Boston I passed on to Montreal, where began the series of engagements for the fulfilment of which my transatlantic visit had been arranged. The beauty of this city has been so often praised that it is useless for me to repeat the platitudes of my own impressions further than this, that in my memory there dwell above all others in prominence the recollections of three landscape views that I have ever seen: from the terrace at Malvern, from Arthur's Seat at Edinburgh, from the castle at Heidelberg, and last, but not least, from the hill at Montreal, from which extends a view all round and not surpassed by anything I ever saw. In Montreal I was the guest of Dr. Gardner, Professor of Gynecology in McGill University, and it was my privilege to give an address to the Canada Medical Association, the annual meeting of which had been arranged to take place during the three days just preceding the meeting of the British Association. My business here, of course, is chiefly with what I saw and not with what I said; but I wish again, here in my own land, to repeat my acknowledgments of the brilliant reception given to me by my Canadian brethren, not so much on my own account as for the position in which they placed me, that of a representative for the time being of British surgery.

During those three days I was associated with some three hundred practitioners of medicine. I heard a number of papers read with discussions upon them, and I say, without hesitation, that nothing which was said or done at that meeting but would have reflected credit on any medical gathering in the world. I often hear it said by practitioners in this country, whose lots are cast in places remote from the busy centres of life, that they find it difficult, or even impossible, to attend meetings of professional societies, and to keep themselves abreast with the growth of the science of medicine and surgery; but in that new country and at that Congress I found men eager and able to be present, though they had thousands, instead of scores, of miles to travel, and it was to me quite impossible to realize the fact that men who sat next me, and who talked fluently and well of the most recent advances in pathology, who knew all the dodges and newest things in laryngology, etiology, and gynecology, practised in villages four, five, or even six days' travel from the place of meeting; that many of them existed in places still unmarked on the map, without any professional neighbor nearer than perhaps a hundred miles. Some of them were even professors in flourishing medical colleges, placed in large cities, which ten or twelve years ago had no existence. In the style, character, and conversation of these men, not only could nothing be detected which could mark them as being defective in general or professional culture and education, or which could place them in a rank lower than the practitioners of my own country, but I doubt very much if from the highest to the lowest in our own ranks we were to take 250 or 300 of our men at random we could compare favorably with them.

Instances occurred every now and then to me of a most delightful kind, in coming across, suddenly and unexpectedly, faces familiar in college life many years ago—faces of which I had lost all recollection, and of the history of whose owners I had no knowledge at all; men who, tired of the struggles of medical life in the old country, had settled in the new world, and had become prosperous, happy, and successful. One unfailing source of wonderment, which no amount of explanation has as yet made clear to me, is the much larger proportion of practitioners to the population which exists on the American continent compared to what we have here. In England we have about one doctor to 1400 people; in Canada it seems to be about one to 800, and in the States it seems to be about one in 600 or 700; yet they seem to be better paid, to be less hardly worked, to be more prosperous and successful than we are here, and to be in a much better social position than we can boast of. The latter fact, most especially, struck me, and it was proved to me in a great variety of ways. But perhaps I cannot give this impression more clearly than by taking an extract from the speech of a Boston physician recorded at the time of the opening of the new medical school. He gives his impression, as it were, from the other side, and certainly there is a singular concurrence in our experiences. "Dining," he says, "with two Englishmen, a few years since—one an Oxford professor, the other the brother of a lord—I was surprised to hear their views on the social standing of the medical profession, and could not help contrasting their position here, where, if not all autocrats, they are all constitutional, and some of them hereditary, monarchs, accompanied by 'honor, love, obedience, troops of friends.'"

Another source of surprise was the large number of medical schools. Thus, in Montreal, a city of 140,000 inhabitants, there are no less than four of these schools—two Catholic and two Protestant—and, although there is only one of great importance, still all of them are well-officered and well-appointed, and, from what I could see of the results of their training, I am unable to say that any of them can be charged with inefficiency. In Toronto there is a magnificent university, the president of which is the famous archæologist, Daniel Wilson, and two medical schools, the buildings of both of which I inspected with care, and I venture to say that they compare very favorably with the school in our own town, or indeed with any provincial medical school, as well as with a large number of our metropolitan schools. The tendency toward the downward competition which would otherwise be inevitable in medical education is prevented by the establishment of that which we most of all want in this country—a guarantee on the part of the State of a minimum amount of medical education. The only defect of this State control, so far as I could understand it in Canada, is that all the provinces are not agreed as to what this minimum shall be, yet each province seems quite capable of protecting its own interests. At one meeting I heard a very remarkable and exhaustive speech on this subject, made by my friend, Dr. Howard, the dean of the medical faculty of McGill College, and I was very much pained to learn from him that they have to contend in Canada against exactly the same evil influence which we object to here, exercised by a few of the British medical corporations. With so many degree-granting bodies as they have, it is perfectly impossible to expect a uniform quality of education. It happens, of course, that some of the colleges pass inferior men who are rejected by the State Examining Board. These rejected ones are very much in the habit of running over to Great Britain and speedily returning to their native province armed with a parchment granted by one or other of three well-known corporations in this country, all of whom shall for the present be nameless. As British qualifications, these diplomas, I understand, are allowed to override the decision of the State Examining Board, and the mischief which we might well confine to our own borders is carried across the Atlantic. The complaints on this subject are loud and frequent, and they add another to the many strong arguments which we are at present urging in favor of the reform of medical education. Only one other fact concerning this matter needs to be alluded to, and that is that these State Examining Boards, which are practically the general medical councils of the province, though technically appointed by the government, are subject to the universal suffrage of the profession.

Of the hospitals of Canada I can say nothing but what is favorable. Dr. Hingston, the distinguished surgeon of l'Hôtel Dieu, and others, took great trouble to show me all their details. Their appointments are equal in every respect, and in some respects are far superior to those to be seen in any but the newest hospitals in this country. I spent a long afternoon in the hospital at Toronto, and I saw there the results of surgical work as brilliant as any to be found in Great Britain.

Unfortunately, the time of my visit to Canada was such that the schools had not reopened for the winter session, so that I saw nothing of them in actual work.

Of the cities of the States, the first I visited was Albany, the capital of the State of New York, a city famous as being the seat of some of the earliest Dutch settlements. The cities of the United States differ in many marked respects from those of Canada, and many differences quite as striking are to be found in the characters and habits of their peoples, but these differences do not extend into matters affecting my medical notes. In Albany I found two large hospitals—one of Catholic foundation, and the other a public institution—somewhat under State control. I was the guest of Dr. Van der Veer, who is attached to both of these institutions, and he was kind enough to give me opportunities of meeting the staff of both of them and what must be considered by far the greater number of the profession of the city and its neighborhood. Here, as in Canada, I was very favorably impressed with the style of the men I met, and here again was pained by the fact I have already alluded to, and evident on all sides, that my profession in the States has a social position and influence far greater than it enjoys here.

There is, in Albany, a very large and successful medical school, with about 250 students. There is an abundance of clinical material. The students are a very earnest and well-conducted body of young men, and their professors uniformly give them a character for steadiness and decorum which, perhaps, might excite the envy of some similar bodies here. I had an opportunity of delivering two clinical lectures at this school, and I was asked to perform operations in each of the hospitals, both of which tasks I undertook with very considerable hesitation. In the first place, as I appeared before my medical brethren as a representative of British surgery, and as I never in my life had any opportunity of delivering such a thing as a clinical lecture, I very much feared my performance would prove extremely unsatisfactory, for the delivery of clinical lectures, like everything else, can only be well done by those who are accustomed to it. Our arrangements in England in this particular certainly do seem to be defective, for I could hardly get my American hosts to believe it possible that anyone who has at his command such a mass of material as passes through my hands should never have had one single opportunity of making that material the means of instruction. The operations I undertook with still greater hesitation, for I had so often and so strongly objected to the performance of abdominal operations in large general hospitals, that I could not undertake their performance without laying myself open to grave charges of inconsistency on the one hand, or on the other of subjecting my patients to an unjustifiable risk. It was pointed out to me, however, that I had been invited to America as a sort of missionary, and that in so far as the kind of work I did and its results had been made the subject of misrepresentations and misstatements, it was my duty to emphasize my missionary statements by actual performances, and that this could be done most completely before large audiences of practitioners and students. Further, they argued that the mere performance on this ground of such an operation, under the circumstances to which I objected, would counterbalance and even justify the increased risk to which I believed the patients would be subjected. Upon this specious reasoning I was persuaded to perform a number of operations, with the result that all of them recovered. I am, therefore, somewhat shaken in my belief that the risks are as great as I had asserted them to be, but, on the other hand, as they were all done without the slightest antiseptic precaution, I am more than ever persuaded that ill-results are to be accredited rather to bad surgery than to malevolent germs. One of the cases at Albany was singularly satisfactory, as it included an accurate diagnosis of a solid ovarian tumor and of uterine myoma, and ended in the removal of both. In New York, at the Bellevue Hospital, I had an equally satisfactory effort in being able to diagnosticate and successfully deal with a very typical instance of pyosalpinx.

I need not say that the subject of Listerism was one upon which I evinced much interest and curiosity, and made many inquiries about it amongst my professional brethren in America. Perhaps I may also assume that what I have to say about it will be taken by my hearers with the qualification that as I have now, for over three years, ceased either to accept Lister's doctrines or to follow his practice, and have obtained increasing success thereby, I may be regarded as more likely to collect evidence in favor of my own views than against them.

The statement made, and the rules laid down by Lister and his disciples, have always been so precise, not to say dogmatic, that one of the great difficulties which I always have had in connection with the scheme was that the practice and details recommended were subject to such constant alteration that from month to month there had to be a constant replacement of old plans for new ones, and there was a constant and endless variation in the details of the treatment. This has always seemed to me to be absolutely fatal to any logical discussion of the doctrines upon which the practice is based. If we assume, what nobody can doubt, that specific diseases are produced as the result of the growth within the body of specific entities, and if we can have an assured statement that by chemical or mechanical treatment these living germs, or whatever may be the last word which has been used to identify them, can be destroyed, the whole question of such diseases is brought within the limits of mathematical certainty.

Prevent the access of the disease-bearing entity and the disease will not occur. Nothing can be simpler. But the followers of Lister proceed a little further; they assume that cases of death after operations have specific characters as clear and distinct as those, for instance, of scarlet fever and smallpox. And from this assumed analogy, and upon this assurance, they base their establishment of all the infinite and increasing variety of processes for the destruction of the wicked germs. But from my point of view I fail to see the analogy which is assumed. I have, for years, been struck with the fact that the conditions under which patients die after operations assume such endlessly varying forms that I have come to the conclusion that any doctrine, which takes for granted that these conditions can be so grouped as to build up forms of specific disease, is based entirely upon insufficient observation and inaccurate knowledge of the facts. This view has obtained a stronger and stronger hold upon me as my experience in my special line of practice has accumulated; watching cases from time to time that had done badly, I am satisfied that hardly two of them died in precisely the same way and from precisely the same cause, and I am, therefore, profoundly convinced that to assume that every patient, or, at least, the majority of the patients, who die after abdominal section succumb to some septic peritonitis, or some septic something or other, is only to cover our ignorance with a cloak, and to bar the way for real advance.

I do not think that any contribution to the literature of abdominal surgery has done so much harm as that column in Sir Spencer Wells's book, in which a terribly long series of fatalities is ascribed to "septicæmia" and "septic peritonitis." Some of Sir Spencer's deaths are put down as having occurred from "peritonitis" simply, but throughout the book, from board to board, there is not a word which explains the different use of these three terms. I should like immensely to be told how a pathologist is to discriminate between peritonitis that is septic and peritonitis that is not, and it is of the utmost importance that such a difference should be clearly defined, for it is the merest folly to put up a theory and then distribute manufactured instances around for its sustenance, as has been done by Sir Spencer Wells.

I do not mean to say that there may not be specific germs which may be conveyed into the abdomen of the patient by accident—germs which may kill the patient; but I do say that the evil influence of Lister's teaching has been over and over again instanced in the constant tendency shown by too many of his disciples trying to cover faults that could be avoided, and bad surgery that might be improved, by attributing the disaster arising from them to a supposititious germ. The conclusion of this part of what I want to say is this, that after innumerable statements that this plan, that detail or the other substance, an all-permeating spray, a piece of lac plaster, or a mass of thymol gauze, or eucalyptol, form irresistibly destructive agents for the germ, we have the astounding fact that one after another of these nostrums are given up, declared to be inefficient, something new is advanced, in its turn to be discovered as a fraud, and thus year after year the process is repeated.

It is somewhat curious, that since this was written, I have read the address of Sir Joseph Lister, at the Clinical Society, in which he admits having twelve months ago expressed "an overweening confidence" in his previous agents, and now he recommends an ingeniously concocted mixture of blood-serum and corrosive sublimate with a confidence as great, and probably as overweening, as in previous instances. This constant over-confident advance and humiliating retreat is quite enough, if no other argument were needed, to show the fallacy of the whole thing.

These were the views which, in very many instances, I laid before American surgeons, and I did not find in a single instance that the facts could be disputed. Among all with whom I talked, I found only one who still used what I suppose I may, without any disrespect, call the old-fashioned carbolic method, the spray and protective and solution, and plasters and gauze. So far as I could discover, the day of that sort of thing on the American continent is rapidly coming to an end.

Our transatlantic cousins are greatly infected by German methods of proceeding, and I understand that the last new germicide is corrosive sublimate. A large number of the American surgeons now perform their operations under an irrigating stream of a very weak solution of this salt; but they are by no means agreed, either as to the strength of the solution required, or of the completeness with which it should be used. One of the most distinguished of American surgeons told me that he is now quite satisfied that sponging over the wound after the operation is completed with a 1 to 1000 solution is all that is necessary, and he states that his results are quite as satisfactory in every way as when he used the cumbrous, expensive, and troublesome method involved in the use of carbolic acid. If it were worth while, I might enlarge in detail upon this subject by giving some transcripts I made of detailed views as expressed by individual surgeons, but perhaps it would not be fair to those with whom I conversed to give their statements without having warned them in advance that I was of a mind to make public use of them. The statement which most impressed me was that of a professor of clinical surgery of more than thirty years' standing, a man of enormous experience, and attached to one of the largest hospitals I visited, who told me that his deliberate conviction had at length been formed that the so-called antiseptic system of surgery had little to commend it, save that of being a very successful system of quackery.

This is a pretty strong term to use concerning a doctrine and practice which has so many and such important followers; but I am bound to say he seemed to me to have some kind of justification in very much the line of argument which I have already indicated. He put it very much in this way: that if, from time to time, in every few months the methods are changed, and with each succeeding change strong statements are made that the last development contains the only security, it must inevitably follow that to the public mind there can be security only in the hands of the inventor himself for the complete and successful accomplishment of details. Others must be in the shade; for whilst they are following methods which Sir Joseph Lister himself has by that time discovered to be useless, he himself is on a new road in which success for the time at least is secured.

This may or may not be an uncharitable view; but coupled with the oft-repeated statement, that the antiseptic practice can be successfully followed only by believers of antiseptic doctrine, it leads very much to conclusions which I have already sufficiently often expressed in public to require repetition here.

The next city that I visited, was one famous in the annals of all historical affairs in the new country—I mean Philadelphia—and no place in the United States can give a better idea of the enormous progress which has been made in America in every phase of life. When I reached that city the medical schools had opened, and I was able to see them at work. I was invited to lecture and demonstrate in the Jefferson Medical College, and was honored by a very large audience of practitioners and students. Here, as elsewhere, I can say nothing but in praise of the style and appointments of both schools and hospitals; perhaps of all the schools which I visited, the one which struck me most is the Women's Medical College of Pennsylvania, which issued in May last its thirty-fifth annual announcement. It has a body of teachers, twenty-three in number, of whom a few belong to our own sex; but it is worth while saying that the demonstrators of anatomy, surgery, practice of medicine, and obstetrics are all ladies, and the professor of obstetrics is Dr. Anna E. Broomall, who favored me with a visit here last year. The building in which the school is conducted, is very large and splendidly appointed, and attached to it there is a large general hospital, with lying-in wards. The staff of this hospital is entirely feminine, and in its theatre all the operations of surgery have been successfully performed by lady surgeons. Last year twenty-six degrees of doctor of medicine were granted by the faculty; and from the perusal of the curriculum, as well as conversation with some of the graduates, and by discussion of the merits and demerits of the whole question with some of its friends and some of its opponents, I am quite satisfied that the lady graduates of Philadelphia are quite as carefully trained as those in any other medical school. When I tell you that last winter one hundred and thirty-two students matriculated in this school, that the theatre in the hospital is large enough to hold three hundred sitters, and that about four thousand patients every year pass through the hospital, I think I shall have said enough to prove to you that in the United States at least the practice of medicine by women has become quite an accomplished fact. There can be no doubt from what I heard from their male competitors, that large numbers of these women succeed in securing a fair share of public confidence. Unfortunately, although they have received a much fairer share of assistance from their medical brethren in America than their sisters have here, their path has not been quite free from obstruction, and in many parts of the States they are not yet admitted to the equality of professional position which I have always claimed as their right. Yet I must say, on behalf of the medical men in America, that they have behaved far more generously to women desiring to study and practice medicine than we have in this country. On both sides of the Atlantic the prejudice against them, altogether unnecessary and entirely without justification, is slowly passing away, and I hope ere long to see measured out for them everywhere that justice to which their claims entitle them.

The views which I personally expressed in a paper read before my professional brethren in this town twelve years ago have received ample justification from my experience in Philadelphia. These views at the time brought down upon me words of the strongest condemnation. I might repeat them here, but I prefer to take them as expressed almost completely by Dr. Oliver Wendell Holmes, in the address I have already quoted:

> "I have always felt that nursing was rather the vocation of women than general medical and especially surgical practice. Yet I myself followed a course of lectures given by the younger Madame Lachapelle in Paris; and if here and there an intrepid woman insists on taking by storm the fortress of medical education, I would have the gate flung open to her as if it were that of the City of Orleans, and she were the Joan of Arc returning from the field of victory."

I do not think that any other point to which I might call attention would justify me in repeating an account of details which would present but slight variation; and the only other incident of which I may speak, was my visit to Washington, where I had the privilege, with the help of the Surgeon-General of the United States Army of seeing one of the most wonderful medical institutions in the world. Of course, I allude to that immense library, formed but always forming, at Washington, and one of the results of which comes before us in that colossal catalogue, which is one of the best proofs of the advancing civilization of the great Republic. You are all familiar enough with the *Index Medicus*, the work of Dr. Billings and his assistants, and any one familiar with the business of cataloguing must know what labor that represents; but if you could see the library itself, your impressions of the undertaking would be immensely increased. The building in which it is situated is the old theatre, hallowed by the occurrence in it of one of the most dramatic incidents of modern times—the assassination of Abraham Lincoln. The building contains also a large museum, devoted mainly to the exhibition of specimens of surgery resulting from the use of all kinds of warlike weapons; and there are exhibited the ghastly result of the War of the Rebellion; every conceivable injury inflicted by lethal methods is collected. Gunshot wounds of bones form one of the most extraordinary sights I ever saw in my life, and some of the specimens have an attraction not merely of a surgical character. Thus I saw the cervical vertebræ of Lincoln's assassin, split by the bullet which reached him in his hiding-place; and the pathological collection aptly includes the brain of Charles Guiteau, who murdered President Garfield.

My trip ended in New York, where I met with a reception, from the leading members of the profession and from many distinguished laymen, of the heartiest and most friendly kind. I lectured and operated at Bellevue Hospital before a very large audience, and I was taken round several of the other medical institutions of the city. Here, as everywhere else, I was immensely impressed with the hospitable friendliness of the people; and in conclusion, I can, I think, say that if any one here requires to be persuaded that the Anglo-Saxon race and the Anglo-Saxon tongue are destined to be in the future as they have been in the past, the dominant influence of the world, he must do as I have done, and put it within his power to write a similar rambling tissue of American Notes.

ORIGINAL ARTICLES.

SOME OBSERVATIONS ON THE USE OF THE HYDROCHLORATE OF COCAINE, ESPECIALLY ITS HYPODERMIC USE.[1]

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Hydrochlorate of cocaine is a drug evidently of such power that, on reading the effects produced on the eye, I determined to investigate its properties in other respects, with a view of ascertaining whether it might be of use to the physician as well as to the ophthalmologist. I shall first detail some conclusions I have arrived at with reference to its *local* action.

On the *throat* it undoubtedly diminishes the sensibility, and is serviceable in causing the laryngoscope to be better borne. Moreover, it is of use in irritable relaxed throats, and in instances in which there is spasmodic difficulty in swallowing associated with this irritability, or from other causes. In ulcers at the back of the throat, connected with dysphagia, painting the parts two or three times daily affords considerable relief. Only for this to last, the solutions employed must be stronger than those which have been used—not from two to four, but from eight to twelve per cent. In tubercular laryngitis the action is excellent. Even a four per cent. solution gives hours of relief, in some cases as many as six hours' freedom from the sense of irritation and the difficulty of swallowing; and stronger solutions relieve for a longer time. The result obtained is far more certain and decided than from the local use of morphia. Compared with iodoform, it is probably less permanent, but as good, or better, at the time.

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[1] Read before the College of Physicians of Philadelphia, December 3, 1884.

Dr. Jurist, whom I asked to employ the hydrochlorate of cocaine at the throat clinic of the Jefferson Medical College, has favored me with a note, in which he speaks of the remedy being "brilliantly successful" in relieving pain and making deglutition easy in painful diseases of the pharynx and larynx, preëminently in tuberculosis and in syphilis.

Using chromic acid and the galvano-cautery frequently, he found that, by first painting the parts with a four per cent. solution, the employment of these agents could be made comparatively painless, and that the efficacy of these, or indeed of all caustic and destructive means, is not interfered with.

In syphilitic ulcerations especially this was tested, and much suffering prevented. Where only four per cent. solutions are employed, the patient may not feel the caustic application to the abraded surface for about twenty to thirty minutes, but after this it becomes painful. All trials should be preceded by careful cleansing of the parts. The local action of the cocaine is also astringent and hemostatic as well as one destroying sensibility. This local action may also be perceived on the tongue and gums. "Although facilitating intralaryngeal medication, it does not prevent spasms," Dr. Jurist writes me, "and consequently is valuable in intralaryngeal operations only on account of its anæsthetic effects."

As regards the local use of cocaine on other portions of the body, I am able to record some observations made in my ward at the Pennsylvania Hospital. In one instance pain in a hollow molar tooth was speedily relieved by inserting a piece of cotton saturated with a four per cent. solution. It may in passing be remarked that cocaine used hypodermically in the same patient failed to mitigate an attack of intestinal pain of colicky kind which had lasted for two days. A case of earache which seemed to be neuralgic was at once relieved by instilling a few drops of a four per cent. solution into the meatus; and a similar observation was made by the resident physician in the ward of my colleague, Dr. Hutchinson. As regards facial neuralgias, the results were less decisive than anticipated. Perhaps they would become more so if we were to rub in an oleate of cocaine over the aching nerves, or larger nerve trunks; or to use a hypodermic for its local use where the disordered nerves are superficial and easily reached. In one instance of neuralgia of the face in which the pain shot into the jaws, painting the gums of the upper jaw with a four per cent. solution, gave very speedy relief. For the amelioration of painful and irritable affections of the nasal mucous membrane, hydrochlorate of cocaine, in not less than a four per cent. solution, is of use; and I have known applications with caustics made without pain when the membrane, after being well cleansed, had been painted with the solution. Since becoming acquainted with the action of the remedy, I have had no case of rose cold or hay fever. But it ought to be of service, and I would suggest its employ in these most troublesome affections.

While discussing its local use it may not be inappropriate to refer to the fact that the solutions of the hydrochlorate of cocaine we all employ—Merck's hydrochlorate, contain less of the alkaloid than supposed; a four per cent. solution, for instance, is only of about three per cent. strength. My attention was called to this by Dr. Jurist, whose remarks, speaking of his observations, I append; and while writing these lines I find that Dr. Squibb has just published the same conclusion:

> "The difficulty experienced in obtaining the cocaine hydrochlorate in bulk, while the solutions were always at command, made it seem desirable to study the latter more closely. In conjunction with my friend, Mr. Stedem, a number of examinations were made. Our later investigations included Merck's manufacture in bulk.
>
> "Experiment I. On adding a dilute solution of ammonia to a solution of the cocaine salt, and then agitating with chloroform, the ammonium hydrochlorate could readily be drawn off with a pipette, leaving the cocaine in solution in the chloroform. By carefully evaporating both solutions the ammonium salt was readily obtained in pure crystalline form. On the watch-crystal into which the chloroform solution was poured there was formed a number of *white acicular crystals surrounded by an areola of sticky, resinous material*, light-yellow in color, and altogether amorphous in character. The crystals were soluble in hot and cold water; the resinous product in dilute *hydrochloric acid*, but not in water.
>
> "Experiment II. Another portion of the solution was carefully evaporated over a water-bath. The resulting mass was similar in appearance to the first, but was readily soluble in water. The difference in solubility is accounted for by the acid state of the residue. When it is remembered that cocaine and its salts have heretofore been described as colorless and crystallizable, and that Merck's product is amorphous granular, and of a light straw color, and further, that chemical manipulation separates a resinous mass from the commercial article, the proposition that our present solutions do not contain the full proportion of the active principle appears to be well grounded."

But what has interested me much about the drug, and what, so far as I know, has not been as yet investigated, is its hypodermic employ, elucidating its general action. In the observations I am about to detail, I have been greatly aided by Dr. Ecroyd, the resident physician in my ward at the Pennsylvania Hospital, and by Dr. Woodbury. We have tried the remedy both on the well and the sick, especially in cases of neuralgia and other painful affections, and have arrived at certain definite conclusions. But first let me speak of the dose. We began with one minim of a two, then of a four per cent. solution, only to find them inert. No influence could be detected on pulse, respiration, or temperature; nor was any local anæsthesia produced at the point of injection. Indeed, no decided effects are produced with less than eight minims of a four per cent. solution, or one-third of a grain of the hydrochlorate of cocaine; and half a grain will show these effects even more strikingly. In some instances, two-thirds of a grain were used.

As regards the local influence at the point of injection, there is considerable difference whether a superficial or a deep hypodermic be used. A hypodermic thrown into the superficial layers occasions local anæsthesia, so that the part may be pricked with needles without these being felt. In one case in which we tried one of these superficial injections in a boy of nineteen, a wheal was produced which was quite insensitive, while all around it sensation was preserved, though perhaps slightly reduced. It is evident, therefore, that if it be desirable to use the hypodermic means of producing local insensibility for the removal of small tumors and the like, a superficial injection immediately into or very close to the parts to be removed will have to be practised. These superficial injections do not occasion subsequent inflammation or abscesses. This is equally true of deeper injection into the tissue below the skin; in the manner in which hypodermics are generally given. But the deeper injections do not produce local anæsthesia of the surface.

Now, as regards the *general* effect of hydrochlorate of cocaine hypodermically employed, it has a little, but not very much, influence on *sensation.* Most patients speak of a sense of warmth all over the body, which, beginning at the point of injection, becomes general in from five to ten minutes; it is, however, not of long duration, the arm in which the injection was practised feeling numb or heavy, or, as one expressed it, "funny." In him, half a grain having been thrown into the left forearm, the sensibility of the skin was diminished from the elbow down to the fingers on that side, and two sharp points were not as distinctly as previously distinguished at the tips of the fingers. There was no change of general sensibility in the legs. The mucous membrane of the lips, tongue, fauces, was slightly less sensitive to sharp points; the conjunctiva was less sensitive, the pupils were dilated.

On the whole, then, there is some general reduction of sensibility, though it is not marked, and is transitory. And this observation accords with others in which one-third of a grain was used, where the alteration of sensibility showed even less; and with a few in which two-thirds of a grain were employed. The general sensibility is therefore only slightly altered.

On the *temperature,* the effect is to heighten it somewhat. This is the record taken by Dr. Ecroyd in the case of a well-nourished man suffering from pains in back and gluteal region, seemingly due to muscular rheumatism:

One-third of a grain of hydrochlorate of cocaine was used; no local anæsthesia was produced at the point of injection, and there was no influence on the pain.

At 11 A.M. (just before injection), pulse 76; resp. 17; temp. 97.5°.

At 11.25 A.M. (after injection), pulse 70; resp. 16; temp. 98.5°.

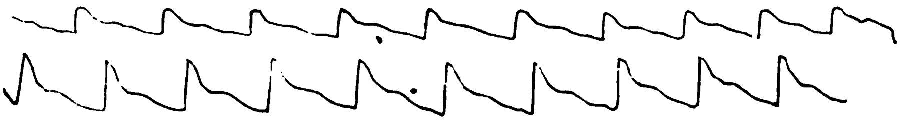
At 11.40 A.M. (after injection), pulse 66; resp. 16; temp. 98.5°.

At 11.55 A.M. (after injection), pulse 64; resp. 17; temp. 98.4°.

At 12.10 P.M. (after injection), pulse 68; resp. 16; temp. 99°.

Similar observations were made in other cases; and it may, in general terms, be stated that the temperature rises from half a degree to a degree and a half; that it does not do so abruptly; but that the rise is maintained for several hours. Within ten minutes after the injection has been given, an increased heat is registered. In one case it was four-tenths of a degree above the figure of starting, and it never reached more than half a degree, which it did one hour and five minutes after the hypodermic injection of one-third of a grain.

The most striking effect of the hypodermic injection of cocaine is on the *circulation.* The pulse may be somewhat accelerated or slower; but it always becomes fuller and stronger. The frequency of beat was noted to fall from 66 to 54, twenty minutes after the injection. In other instances, there was but little variation; in a few, a slight quickening was detected. But not in a single instance was there not a fuller and a stronger pulse. We made many observations on these points at intervals of fifteen minutes, the sphygmograph being kept in place to insure uniformity of pressure, and always with the same result. I select from numerous tracings this one tracing, taken in a case in which half a grain of the hydrochlorate had been given hypodermically; the upper line is the pulse-trace before the injection, the lower fifteen minutes after. The higher vertical line of ascent, the more pointed summit, show the increased force of cardiac contraction; the more sudden fall in the line of descent, and the well-marked dicrotic wave, indicate no increased, rather lessened—arterial tension. And all our observations tend in the same direction. Tracings taken an hour after the injection still show these characteristics; but the effect gradually passes away. While marked, there is decided increase of the heart's action; the apex beat is more distinct and forcible.



On the *pupils* the influence is very marked. They become speedily dilated; and with the change, uncertainty of vision is complained of. The dilatation of the pupils, following the hypodermic injection, does not last more than a couple of hours, and during this period ophthalmoscopic examination is of course very easy.

On the *secretions,* I have not as yet fully studied the drug. On the bowels it had no influence; the urine appeared increased in quantity, and the specific gravity decidedly lowered, while the phosphates were found to be increased. But our observations were not very numerous or definite on these points.

Summing up now some of the general effects observed, the drug, used hypodermically in the doses mentioned, failed to relieve attacks of intestinal pain, and was useless in cases of obstinate neuralgias, especially in sciatica. This was especially shown in a case at the Pennsylvania Hospital, in which about ten hypodermic injections were given, varying between one-third and half a grain, but in which no decided effect on the pain or the disease was produced. It is, however, fair to state that the case was of a year's standing, and had resisted blisters and chloroform injections. The cocaine influenced somewhat the dull pain; but did no permanent good. Neither in this case nor in others did it induce sleep. In certain very superficial neuralgias, its local action, not its constitutional influence, does temporary good. As an anæsthetic, its local action is the one which will give it its great value; and in diseases of the eye, ear, throat, tongue, and nose, the insensibility to which it gives rise suggests a wide range of application. But this insensibility cannot be produced to a sufficient degree through the constitutional effect of a hypodermic.

Yet thus resorted to, the remedy has other and valuable uses. The effects on the pulse and temperature recorded in these observations, suggest its application in many a condition of collapse, of weak heart, or heart failure; and its employ in low fevers, too, as a cardiac stimulant is a self-evident proposition. How permanent the benefit, how often the doses must be repeated, are matters which experience alone can determine.

COCAINE AS A LOCAL ANÆSTHETIC IN ENUCLEATION OF THE EYEBALL.

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ON the 8th of October, 1884, the hydrochlorate of cocaine was first used in America in ophthalmic practice by Dr. Charles S. Bull, of New York. Since that time almost every operation that can be done upon the eye has been done under its influence. Ether, nitrous oxide, and chloroform have been used but seldom by those surgeons who have been fortunate enough to have a supply of the *pure* drug. I first used a two per cent. solution of the alkaloid on the afternoon of Monday, October 13, 1884, and have only used ether for its pure anæsthetic properties once since that time (*i. e.*, in a case of incipient panophthalmitis, in which the bulging eyeball prevented the use of the eye-speculum until ether was used).

At first sceptical as to its powers of producing anæsthesia deeper than the conjunctiva and the cornea, I limited my operations to these localities; but as I saw my *confrères* doing iridectomies, extractions of cataract, tenotomies, etc., I followed their example, and soon had abundant reasons for becoming more and more enthusiastic in regard to its wonderful powers. I (as others have done) was enabled to do iridectomies without giving pain; and it might be well just here to state how it has been used to accomplish this result, because the failures in its use have been in most cases from want of care in this particular—anæsthesia of the conjunctiva and cornea having been produced by dropping two or three drops of the two or four per cent. solution on the cornea, then waiting three to five minutes and repeating the application. This is done three or four times; by this time complete anæsthesia will be found. Section of the cornea now being made, it is necessary to introduce the solution into the anterior chamber. This can be done either by injecting it with a syringe or by introducing a spatula through the wound and thus conducting the solution from the dropper to the iris. In a few seconds the iris can be withdrawn and the cut painlessly made. One great advantage of its use, referred to by several writers, is the facility with which the dressing of the wound can be accomplished, clearing it of blood-clots, iris tissue, lens material, or vitreous.

Perhaps the severest trial to which this local anæsthetic can be put is enucleation of the eyeball. Several attempts to do this have been made, but, so far as I have heard, unsuccessfully. I therefore give a short account of an enucleation done November 29th at the New York Eye and Ear Infirmary, the anæsthetic being cocaine.

Mr. M. W., æt. 50, entered my service at the New York Eye and Ear Infirmary November 26, 1884, with a phthisical eye (right) having plus tension and being very sensitive to the touch. He stated that the right eye was lost in infancy, cause unknown, and had never bothered him until four weeks ago, when it suddenly became inflamed (?) and has continued so until the present time. As the left eye, which had formerly been perfectly normal, had gradually failed during the past months (no change shown by the ophthalmoscope), enucleation was advised. The usual method of producing anæsthesia of the cornea and conjunctiva was followed; then having incised the conjunctiva on the temporal side I separated the subconjunctival tissue as far back as possible with my scissors and a probe, and with an Anel syringe injected a few drops of a four per cent. solution over the tendon of the external rectus.

I then divided this tendon, and introducing the point of the syringe as far back as possible, keeping its point near the globe, I injected a few more drops; this was done with each of the recti. The globe was then dislocated forward, the nerve severed, the obliques cut, and the conjunctival wound loosely drawn together with a stitch. During the operation the patient lay perfectly motionless and without any acceleration of pulse; occasionally he felt slight pain, but not enough to interfere with the operation—and indeed complained most when the cavity was flushed with the cold solution of boracic acid previous to applying the compress and bandage.

The operation lasted about one-half hour, and during that time the solution was dropped on to the eye, or injected into the orbit, every three to five minutes. The patient, when asked afterwards in regard to the pain of the operation, replied: "I suffered much more before the operation than during it." There were no after-effects noticed (although carefully watched for by Dr. Walker, the House Surgeon) from the large amount of the solution (representing about four grains of the cocaine) injected into the tissues of the orbit.

The cocaine used in this case, and in most of the operations at the Eye and Ear Infirmary during the past month, was made and dispensed by David

Hays & Sons, of 543 Fifth Avenue, New York City. The solution possesses the anæsthetic as well as the mydriatic properties of cocaine, but differs from the solution of Merck's crystals in being slightly irritating when applied to the conjunctiva. The solution made by Parke, Davis & Co. is also slightly irritating. The wound healed kindly, and the patient was discharged from the Infirmary December 6, 1884.

The points of interest to me are:

1. That the solution was applied to the surface of the eye every three or four minutes during the operation.
2. That the injections were made not only over the tendons, but also deep into the orbit behind the eyeball.
3. That the operation was done slowly so as to allow the cocaine to act thoroughly.
4. That about ʒiss of a four per cent. solution was used.
5. That no physiological effects followed the use of so large a quantity of the drug.
6. That the field of usefulness for cocaine has become so wide.

MEDICAL PROGRESS.

Treatment of Unreduced Spontaneous Dorsal Dislocation of the Hip.—At the meeting of the Royal Medical and Chirurgical Society on October 28, Mr. William Adams read a paper on Excision of the Head of the Femur in a case of Unreduced Spontaneous Dorsal Dislocation occurring during Fever. The case was an example of spontaneous dislocation of the head of the femur on the dorsum ilii, occurring during the progress of rheumatic fever in a boy eleven years of age, and as the limb remained in a contracted and useless condition, the head of the femur was excised on March 29, 1882. This operation had been first performed in a similar case by Dr. H. G. Rawdon, of Liverpool, on July 16, 1881, and published in the *Liverpool Medico-Chirurgical Journal*, January 2, 1882. In Mr. Adams's case, the patient was admitted into the Great Northern Hospital on March 4, 1882. After two unsuccessful attempts at reduction, having previously divided the adductor longus tendon, Mr. Adams excised the head of the femur by making a T-shaped incision with the long arm two inches and a half in length directly over the head and neck of the bone, and the small arm one inch in length, transversely over the head of the bone, which was at once exposed. The head of the femur was uncovered by capsular ligament, and the articular cartilage was in a healthy condition. It was found that the capsular ligament had been ruptured, and the torn margins of the rent passed on either side of, and closely embraced, the neck of the bone. After dividing the margins of the capsular ligament, the operator passed his small subcutaneous saw to the neck of the bone, and cut through it a little below the margin of the articular cartilage. The detached head of the femur was then drawn out of its position after some slight adhesions had been cut through. The round ligament preserved its normal connection with the head of the bone, and was adherent to the articular cartilage, having been divided with the saw a little below the head. The wound progressed favorably without much suppuration, and on June 1 was completely closed. On June 14, the patient was allowed to walk on crutches, and on October 1 without crutches. The limb was perfectly straight, and the movement at the hip-joint was free in all directions. The author observed that in all the cases of spontaneous dislocation which had fallen under his observation, the head of the femur had been dislocated on to the dorsum ilii. The cases were arranged in three classes: 1. Dislocation occurring during the progress of fever. 2. Dislocation occurring in cases of paralysis, generally infantile, but occasionally in the adult. 3. Dislocation occurring in the first stage of hip-joint disease without suppuration. Excision of the head of the femur in its simplified form, as above described, the author believed, would be found applicable to all these cases, unless sufficient freedom of motion be obtained by tenotomy and passive movements. He also thought it might be applicable to some cases of fibrous ankylosis of the hip after disease in which the limb remained contracted, as free motion is seldom obtained by simply dividing the neck of the bone.—*Lancet*, November 1, 1884.

Antipyrin in Diseases of Children.—In an article on this subject Drs. Pengoldt and Sartorius state that antipyrin is easily soluble, and the taste easily disguised, so that it may be administered to children in an agreeable form. They have used it in 21 cases of fever in children of different ages, in 18 cases of pneumonia in children, and in 1 case each of erysipelas, scarlet fever and diphtheria.

In the cases of fever gr. jss–iij were given for each year of the child's age; these doses having a marked antifebrile action for from 4 to 8 hours, though the temperature was not reduced entirely to the normal. The drug may be administered in syrup. It acts very well when given per rectum.—*Centralbl. f. d. gesammte Therap.*, Sept. 1884.

Double Carotid Aneurism; Ligature of both Vessels.—The *Cincinnati Lancet and Clinic*, of October 18, 1884, gives an account of a case reported by Riegner (the reference not stated). The patient, a male, æt. 54 years, consulted Riegner in 1881, for the relief of a pulsating tumor on the left side of the neck, which had appeared during the past six weeks. The tumor was growing rapidly. It could not be attributed to an injury or a specific taint. It had all the pathognomonic signs of an aneurism. When the artery was compressed between the two heads of the sterno-cleido muscle the growth, which was about the size of an egg, became very much smaller, and pulsation and bruit ceased entirely. The carotid on the opposite side presented no abnormalities at that time; the radial pulse was synchronous on both sides. The pulse of the left temporal artery was somewhat tardy when compared with the opposite side. Digital compression was ordered made for four or five hours for four consecutive days, and the patient was put on a low diet, with iodide of potash internally and an ice-bag on the tumor. The growth diminished in size, but the patient was compelled to make a journey, during which time it rapidly increased in size again to such an extent as to make pressure on the trachea and œsophagus, causing difficulty in deglutition and phonation.

The common carotid was ligated according to Bruns's method. Two strong catgut ligatures were put on about one centimetre apart; the artery not divided. The growth disappeared and ceased to pulsate. Marked cyanosis of the face set in, which always disappeared in the latter part of the day. Pupils were the same on both sides, nor were there any untoward symptoms whatever on the part of the brain. The wound was dressed with the permanent antiseptic dressing and a decalcified bone drainage-tube. There was no reaction, and the dysphagia and hoarseness soon disappeared. When the first dressing was changed, thirteen days after the operation, the wound was found to be perfectly healed; the sac was about the size of a small coin, flat, solid, without any pulsation, and in the period of two weeks more all signs of a growth had disappeared. In the lower third of the neck an artery, about the size of the radial, quite superficial, developed rapidly, which was undoubtedly the collateral branch. The pulsation of the external maxillary and temporal on the left side had ceased entirely. In the course of a year the patient consulted Riegner again for a heavy feeling in the right side of the neck. The carotid was pulsating abnormally strong, otherwise there were no abnormal organs. One-half year later a tumor about the size of a pigeon's egg had developed in the region where pain was formerly complained of. During his absence the patient was treated at Vienna with ergotin injections, but with no results. The condition of the growth remained stationary for six months, when it again increased rapidly in size, and Riegner was once more consulted, and found an aneurism on the right side, eight and one-half centimetres long and seven centimetres broad. The sac crowded the trachea to one side, and moved up and down with it during the act of deglutition, as though there were adhesions existing between the two structures. The patient was quite cyanotic and very much depressed. Compression of the carotid caused a cessation of the pulsation in the sac, but, in the course of a few seconds, the patient complained of dizziness and extreme cyanosis, but finally the pressure from an ice-bag was tolerated for five minutes. April 5th, the right common carotid was ligated, the artery was somewhat displaced, and the sternal end of the cleido muscles had to be severed. The artery was so much affected that only two and one-half centimetres of the lower portion was healthy. It was ligated in this portion with No. 3 sublimate catgut in two different places, but the vessel was not severed between the ligatures for fear that they would slip. Pulsation in the sac ceased at once, but it did not collapse. The pupils, at first narrowly contracted, soon dilated ad maximum, and finally the right pupil contracted somewhat again, leaving a difference between the two. Dangerous cyanosis set in, but in the course of twenty minutes it passed off again, The dressing consisted, as before, of the immovable antiseptic wood-wool. When the patient recovered from the anæsthetic he did not complain of any brain symptoms, the radial pulse was full at 75 per minute. The patient was dismissed cured on April 23d.

Post-partum Avulsion of the Uterus.—At the meeting of the Obstetrical Society of London, on October 28, Mr. J. Hopkins Walters read a paper on this subject, with a case followed by recovery. In April, 1882, Mr. Walters was called to a patient, aged twenty-two, in her third confinement. She had been attended by a midwife, who, after the birth of the child, finding that the placenta did not come away, pulled at the cord, which broke at its attachment. She then introduced her hand and tore away the whole of the uterus with the right ovary and Fallopian tube, portions of the round ligaments, left Fallopian tube, and ligament of the left ovary attached to it. Mr. Walters saw the patient twenty-one hours after the accident, and found her under the influence of opium, and somewhat recovered from severe collapse. A large quantity of omentum protruded from the vulva, and in the upper part of the vagina was an enormous rent. Mr. Walters ligated and cut away the omentum, which was cold and badly bruised, at the level of the vulva; the parts were washed with solution of permanganate of potash, and a pad of salicylated wool applied. The opiate was continued; catheterization ordered every eight hours, and the diet limited to milk and beef-tea. The patient did well until the fifth day, when she was seized with shivering; her temperature fell to 97.4°, and the pulse rose to 170. Mr. Walters irrigated the vagina with solution of permanganate of potash, and, finding that the vaginal fundus had well closed round the omental stump, afterwards used a solution of carbolic acid; quinine, in large and frequent doses, was combined with opiates, and the vagina syringed every eight hours. On the twenty-eighth day the patient was able to drive five miles to the Royal Berkshire Hospital, where she remained under Mr. Walters's care until the beginning of July, when the omental stump had frittered away, and the vaginal wound was perfectly cicatrized. At the present time, two years and a half after the mutilation, the patient is in perfect health and attending as usual to her ordinary occupations. After a diligent search, Mr. Walters has found reports of thirty-six cases of accidental removal of the puerperal uterus, of which fourteen recovered. Of all these, only three were, without doubt, unattended by previous inversion of the uterus. Having regard to the medico-legal aspect of these cases, Mr. Walters draws an important distinction between the accidental removal of the previously inverted uterus and of the uterus that has not undergone inversion, on account of the possibility of uterine separation through spontaneous rupture. According to present experience, inversion of the uterus is not found to coexist with rupture either of that organ or of the vagina; and where it is shown that the uterus was inverted before being torn away, it becomes tolerably easy to estimate the degree of criminal responsibility attaching to the attendant. On the other hand, where it can be proved that the uterus was never inverted, it is impossible to assert that the separation of the uterus was wholly due to violence, and not contributed to by a spontaneous rupture through the uterine or vaginal walls. Mr. Walters quotes cases and authorities to prove the occasional insidious occurrence of uterine rupture, the suspension of symptoms, and the completion of childbirth in spite of it, in some cases independently of manual interference, and without any disproportion between the maternal passages and the child; and concludes that, in giving evidence in such cases, these facts should be most carefully remembered.—*Lancet*, November 1, 1884.

THE MEDICAL NEWS.

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SATURDAY, DECEMBER 13, 1884.

THE TREATMENT OF CYSTS OF THE THYROID GLAND.

THE treatment of the solid varieties of struma or goitre appears, after the failure of the internal administration of iodine, to have narrowed itself down to extirpation. This is not only the most reliable measure, but under antiseptic precautions and improved methods of operating in the hands of surgeons who have had the most experience with strumectomy, it is now recognized as a comparatively safe and eminently proper procedure when there are urgent reasons for its performance.

The best treatment for cystic goitre, or, more correctly speaking, of solitary cysts of the thyroid body, is as yet an open question. In a discussion upon this subject at the Versammlung Deutscher Naturforscher und Aerzte in Freiburg, in 1883, which may be found in the *Centralblatt für Chirurgie*, No. 44, of that year, Maas, Kraske, and Beck strongly urged incision of the sac, with or without suturing its edges to the edges of the skin wound, and packing with lint. Of 11 cases thus treated all recovered, but there was alarming hemorrhage in 1. The procedure, however, if the wall of the cyst happens to be thick, or the seat of calcareous deposits, or if it is constituted in part, as it not infrequently is, by degenerated glandular tissue, requires a long time for a cure, and is liable to be followed by the formation of a troublesome fistule. Nor is it a perfectly safe measure, as of 100 cases treated in Freiburg, in 1879, and analyzed by Schinzinger, 3 died, while of 11 from the practice of Billroth, 3 also proved fatal. Pinner recommended obliteration of the cyst by injection of tincture of iodine, but Schmidt stated that he had abandoned injections, as he had met with one death. Kottmann repudiated both injection and incision, and favored extirpation of the cyst, while Küster rejected extirpation and injection, and favored incision. Hence, the weight of opinion was in favor of Beck's operation, or of incision combined with packing the sac with lint.

Injections of iodine are frequently successful, but from the excessive suppuration and extensive sloughing which they sometimes set up, they are not free from danger. Thus, of 35 cases recorded by Billroth in 1877, 6 failed, 1 died, and high inflammation was induced in all; while of 106 cases collated by Schwalbe, in 1878, 22 suppurated and 5 died. With a view to obviate these risks, Morell Mackenzie, in 1872, substituted for iodine one part of the solution of the perchloride of iron to four parts of water, through which the cyst is converted into a chronic abscess. In performing the operation, the cyst is first punctured and emptied with a trocar at its most dependent part. When large, its size should be reduced, as in the case of hydrocele, by one or more preliminary punctures, but it should not be entirely evacuated, as the loss of support of its vessels is liable to be followed by hemorrhage into the sac. A drachm or two of the solution, according to the volume of the cyst, is injected with a syringe of peculiar construction, to prevent the accidental introduction of air, the canula is plugged, and, with the solution, is left in the cyst. At the expiration of seventy-two hours the plug is removed, and the contents of the sac withdrawn. If the fluid be found to be bloody or serous, a second injection should be made; but should it be purulent, which is the end desired, the canula is retained as a drain until the secretion becomes thin and limited in amount, flaxseed poultices being in the meanwhile kept upon the part. In a paper read at the recent Copenhagen Congress, and published in *Annales des Maladies de l' Oreille, du Larynx*, etc., for November, 1884, Mackenzie states that up to December, 1873, he had treated 68 cases of cystic and 19 of fibro-cystic goitre by this method. All of the purely cystic cases were cured, while two of the cases of fibrocystic tumors died. Since then he had treated about 125 additional cases, with uniform success.

The latest contribution to the surgery of cysts of the thyroid body is contained in the *Centralblatt für Chirurgie*, No. 43, of this year, from the pen of BURCKHARDT, of Stuttgart, who agrees with Kottmann in recommending excision to the exclusion of other measures. All of his 17 operations were successful. In more than one-half of the cases the cyst was larger than a goose's egg, and in six cases previous injection with iodine had failed. The sutures and drainage-tube were generally removed at the first dressing, or on the eighth day, and complete cicatrization resulted in nineteen days, on an average.

The operation itself is not difficult of performance, nor will it be attended with more than ordinary hemorrhage, if proper precautions be observed to prevent it. The capsule of the gland having been exposed by an incision made either in the middle line or along the anterior border of the sterno-cleido-mastoid muscle, in accordance with the location of the cyst, it is laid open after previous double ligation and division of the numerous vessels which are distributed to it. Should the wall of the cyst be covered, as not infrequently occurs, especially when the sac is deeply seated, by a layer of gland tissue, which may be recognized by its peculiar red tint, this should also be opened without fear of hemorrhage, since its vascular supply has been interfered with by the compression exerted upon it by the cyst. The sac proper having in this way been exposed, it is carefully enucleated with the fingers, or curved blunt instruments, great care being taken to secure all resisting bands, which are really the vascular connections of the sac, between two catgut ligatures before they are divided with the scissors. The great secrets of success are the observance of the rule to cut nothing except between the ligatures, and the securing of proper drainage under antiseptic dressings.

In a paper published in the *Revue de Chirurgie*, No. 8, 1883, we find that Julliard, of Geneva, is also a strong advocate of excision of the sac. In support of his views, he narrates 6 cases, all of them successful, in which the cyst varied in volume from that of a billiard ball to that of a fœtal head.

From a consideration of the results of the various methods of treating cysts of the thyroid gland recorded in the preceding paragraphs, the following conclusions may be drawn: First, That when the wall of the cyst is unusually thick, or the seat of cartilaginous or calcareous deposits, or when it is constituted in part by gland tissue, excision of the sac should be resorted to; Secondly, That, under ordinary circumstances, the excitation of suppuration, by the injection of a diluted solution of perchloride of iron, followed by adequate drainage, holds forth the best prospects for a safe and radical cure; and, Thirdly, That injections of tincture of iodine should be abandoned.

SOME RECENT VIEWS AS TO ECLAMPSIA.

DELORE, in the *Archives de Tocologie* for November, asserts the probable microbian origin of eclampsia. Among the arguments which he presents to uphold this strange hypothesis, are the following: The prodromata indicate a progressive alteration of the blood—they constitute the stage of incubation of germs; as in scarlatina and typhoid fever, there are found albuminuria and nephritis in all degrees; a high temperature which increases after death, and this post-mortem hyperthermia he believes to be due to bacterial changes in the blood mass; finally, as in several affections indisputably of bacterial origin, convulsions occur at the beginning.

The theory of microbes, in the etiology of maladies has a wonderful elasticity when it can thus be stretched to include the phenomena of eclampsia; and, if these can be included, "the whole unbounded" empire of disease will soon be under microbian law, and the practice of medicine become chiefly the use of antiseptics.

FÉRÉ, in the *Archives de Neurologie*, endeavors to show a close connection between eclampsia—not only puerperal, but infantile also—and epilepsy. He states that, while ancient authors admitted eclampsia was a neurosis analogous to epilepsy or to hysteria, since the frequency of albuminuria in scarlatina and in the puerperal state has been observed, opinions have changed, so that it was no longer asked if the subject be a neuropathic predisposed to cerebrospinal reactions, but everything was explained by a so-called specific action of altered blood upon the central nervous system. Féré's effort, then, is to show the neuropathic predisposition of the subjects of eclampsia and the little-known bonds uniting eclampsia and epilepsy; that these two disorders are not only in relation by their clinical analogies, but they ought to be by their pathogeny. The views presented by Féré are interesting and important, but larger observations are needed to confirm the truth which he believes is indicated by them.

As to the relation between epilepsy and eclampsia—we mean eclampsia as occurring in pregnancy, in labor, or in childbed—one might ask, Why should the latter be attended with such acute mortality, while the former is not fatal? And, again, one does not bleed an epileptic, while an eclamptic can be bled in almost all cases with the best results. If *cura ostendit morbum* be true, this is not an epilepsy which is cured by bleeding.

THE PENNSYLVANIA ANATOMICAL ACT.

THE medical profession in some of our States, and especially in Illinois, are taking active steps toward obtaining new Anatomy Acts. In view of this fact, and of the recent passage by the State Legislature of Pennsylvania of a new Act, it may be worth while to lay before our readers a brief sketch of the law and of its excellent working. In our issue for August 11, 1883, we published the full text of the law as proposed by the anatomists and enacted by the Legislature.

It provides a State Anatomical Board composed of the professors and demonstrators of anatomy and of surgery of all incorporated medical and dental schools, and one representative from every such private school. This Board shall distribute to each school, in proportion to the number of students in their anatomical and surgical classes, all unclaimed and unknown bodies, which would otherwise be buried at the public expense. Each school reports to the Board, at stated times, its number of students as a basis of such distribution. In each county of the State unclaimed bodies may be delivered through the Board to any physician in the county who complies with the provisions of the Act as to filing a bond. Thus it legalizes dissection throughout the State, and affords facilities for anatomical study to those who could secure no such opportunity, except by leaving their practice and coming to Philadelphia. All bodies not so needed in each county are, at the expense of the Board, forwarded for use in the large schools, whose students come from all parts of the State.

This Act has only been in operation practically since September, 1883, yet its good results are already apparent. To put such a law in operation in the many counties in the State and in numerous institutions, has required a large amount of labor and much patience and tact. Prejudice has in some cases only slowly yielded, but gradually the operation of the law is being extended over a larger area, and, as the figures will show, it is working most satisfactorily. The voluntary Anatomical Association, which preceded the present Board, received and distributed in the year 1879–'80, 243 subjects; in 1880–'81, 222 subjects; in 1881–'82, 302 subjects; and in 1882–'83, 244 subjects. In the year ending April 1, 1884, there were received 283 subjects, but the law had then just begun to be enforced. In the first half of the present year there have been received in all 232 subjects. As the field of operation of the law is being gradually extended, it is fair to estimate that the supply for this year will reach at least a total of 400, and possibly even more. Even this number, however, is far too little for the wants of our great schools. The Board, however, are gradually putting the law in working order in counties as yet unreached, and the supply will soon be adequate to all the demands of the schools for properly educating their students.

The Pennsylvania Anatomy Act has been proved by its working to be the best law in force in this country, and we are glad to learn that the profession in Illinois will endeavor to have substantially the same law passed. We bespeak for them all the help our readers can give them. They have gone to work in the right spirit, and with a systematic effort which deserves and should command success. Such a law is the only means to provide the physician with a knowledge of this fundamental study; and is the surest means of preventing desecration of graveyards, —a crime which is so shocking to the moral sense of the entire community.

DECOMPOSITION OF MILK.

As an evidence of the degree of refinement to which the study of mycology is now being carried may be quoted some recent investigations by DR. HUEPPE, of Wiesbaden, on the decomposition of milk, which were reported at the recent Congress of German Naturalists and Physicians, and published in full in the *Deut. med. Wochenschrift*, Nov. 27. As the result of these, he has divided the organisms which are concerned into three classes, all of which are characterized by distinct and easily recognized microscopic characters. They include, 1st, those which produce acid products; 2d, those which act like rennet; and, 3d, those which produce pigment.

The spontaneous formation of lactic acid is produced by a short bacillus, which converts the sugar of milk into lactic acid and carbonic acid. A micrococcus cultivated from saliva produces lactic acid in smaller quantity, but no carbonic acid. Lactic acid together with an intensely red pigment is produced by the micrococcus prodigiosus; while the micrococcus of osteomyelitis, besides its own peculiar malignant action, produces both a yellow pigment and lactic acid. In like manner butyric acid is produced by a special bacillus, as is also the fermentation peculiar to koumys.

The bacteria acting like rennet, peptonize and dissolve the casein. Among the pigment-producing bacilli are certain green, fluorescent bacilli, as well as blue bacilli, which are the causes, respectively, of green and blue milk. The former is an earlier condition than the latter. The latter is only partial, unless the lactic acid fermentation is also present, when a deep blue succeeds to the fainter blue.

Koumys is produced by the action of the lactic acid organisms, which form lactic and carbonic acids, hydrate a part of the milk-powder, and render the alcoholic fermentation by yeast possible, and, further, by the action of the peculiar fungus, the dispora caucasica, which first dissolves the casein, and later decomposes it.

In like manner, the variously colored urines and sputa are due to different varieties of fungi.

THE INTRAUTERINE COMMUNICABILITY OF ERYSIPELAS.

KALTENBACH narrates, in the *Centralblatt für Gynäkologie* for November, a case which seems to prove that the fœtus may derive erysipelas from the mother. A pregnant woman had erysipelas in May, followed by another attack which began on the 19th of June, and she was delivered of a well-developed male child, weighing about eight pounds and a half, on the 15th of July. The head, neck, and thorax of the child showed thick lamellæ of detached epidermis, and in a few days a similar desquamation was observed upon the buttocks. Kaltenbach states that he has never seen such a large separation of the epidermis in the new-born, and that the surface thus left was similar to that seen after desquamation in scarlet fever, or in erysipelas.

Conclusive proofs that the child had suffered from erysipelas while in the womb were wanting; for neither in the scales nor in the placenta were Professor Boström's erysipelas cocci to be found, and culture experiments were also in vain. But these negative results were attributed to the fact that the experiments were made long after the end of the disease.

Erysipelas is not a common disease in pregnancy, and when it occurs, if the attack be severe, abortion is very likely to be caused, and hence great interest attaches to this case, reported by Kaltenbach. This single observation is of course not conclusive, but it may lead to the reporting of similar cases.

Charpentier, referring to erysipelas in pregnancy, states that the disease is less grave than variola, and should be, in regard of gravity, classed with rubeola. The sole case falling under his own observation was that of a woman taken about the fourth month of pregnancy with the disease, and who had until the end of the pregnancy, which terminated in the birth of a living child, a succession of attacks of facial erysipelas, recurring from month to month, which were remarkable for the slight intensity of the febrile phenomena, although the eruption was well marked. That the fœtus escaped the disease, although some six attacks occurred to the mother, is an argument against the correctness of Kaltenbach's view.

A USEFUL HINT TO AUTHORS AND PUBLISHERS.

WE purchased, the other day, a copy of that excellent book published by Henry Holt & Co., of Boston—*The Human Body*, by H. Newell Martin, of Johns Hopkins University. In it we find so excellent an idea that we call special attention to it. From the librarian's point of view, it is as useful as it is novel.

On a fly-leaf in front of the title-page are printed "slips for librarians to paste on catalogue cards." These are four in number, under the several captions—"Martin, H. Newell," "Human Body," "Anatomy," and "Physiology"—with the full title, etc. The librarian has only to cut these out and paste them on four cards, instead of the laborious writing of the title four times. Moreover, it is a great gain in legibility.

We recommend the idea to authors and publishers as well worthy of imitation.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, November 11, 1884.

THE PRESIDENT, ROBERT F. WEIR, M.D., IN THE CHAIR.

DR. GERSTER presented a case of

ANEURISM OF THE RIGHT SUBCLAVIAN ARTERY,

in a patient with the following history:

Aug. B., fifty-one years old, a cigarmaker by trade, never had syphilis, and no vestiges of the disease being visible, presented a large bony frame covered by wasted flabby muscles, and a pale, sallow skin. He alleged to have noticed increasing very acute pain along his right arm since the summer of 1883, accompanied by wasting of the muscles and a peculiar bluish discoloration of the skin of the arm and hand. Since the fall the terminal phalanges on the right hand became shovel-shaped, the nails like claws, and his general condition very much impaired by constant pain, formication in the hand, and lately increasing dyspnœa. Shortly before New Year's, 1884, Dr. John Schmidt noticed at the German Dispensary a pulsating tumor behind and to the right of the sternoclavicular joint of the right side, and diagnosticated an aneurism of the right subclavian artery. I confirmed the diagnosis, but thought that the location of the tumor, the pulsatile elevation of the sternoclavicular joint, a corresponding dulness, and the dyspnœa warranted the assumption that the anonyma at its bifurcation was also concerned in the lesion. The characteristic bruit was present, the carotid and radial pulses were normal, and synchronous with the heart's action. The inferior cervical triangle of the right side presented not a depression, but a distinct elevation above the level of the clavicle and sterno-mastoid muscle. The main swelling and resistance being probably situated in the angle of the clavicle and the sterno-mastoid muscle, direct pressure on the tumor was not tolerated on account of the intense pain, but reduced the swelling and pulsation to a great extent.

On January 16, 1884, I deligated the common carotid and the subclavian, or, according to English nomenclature, the axillary artery, the latter being tied in Hohrenheim's triangle, below the clavicle. The ligatures used were juniper catgut. The incisions were sewed up—not drained. Immediately after the ligatures were applied, the radial pulse and that of the carotid disappeared; but the pulsation of the tumor became more violent than before, when the ligature on the carotid was tightened. Nothing abnormal was observed regarding the pupils, the heart's action, or respiration.

For a considerable period of time no appreciable difference in the conformity of the pulsating swelling was observed; on the contrary, the shooting pains and formication along the branches of the brachial plexus seemed to increase. The wounds healed correctly under a single dressing. About four weeks after the operation it first became apparent that the tumor had decreased in size. Simultaneously the pains became more tolerable. In March and April thirty hypodermic injections of Bonjean's ergotine were made in the abnominal region, and seemed to hasten the shrinking of the tumor, which now became very manifest. By May the cyanosis, hyperidrosis, glossy skin, and formication, as well as the neuralgic symptoms, had so much abated that the patient could sleep without opiates, and had gained over ten pounds in weight. The atrophy of the muscles of the arm and forearm had also improved materially under massage and active exercise; and now the patient, who seemed to be at death's door, may be said to be fairly and sufficiently comfortable to enjoy life, and to attend to his avocations. The abnormal pulsation and bruit have entirely disappeared, and only a well-perceptible fulness and resistance seen and felt in the right supraclavicular fossa as compared with the other side; short, mild, and rare attacks of shooting pains along the arm and up the nape of the neck; finally, the peculiar shape of the terminal phalanges of the hand and nails of the right hand have unavoidably remained behind. It seems that the subclavian portion of the aneurism is filled up with a solid clot, the radial pulse being absent to this day.

DR. SANDS thought it might be a question whether the aneurismal sac was completely obliterated. It was evidently firm, but pulsation was quite marked.

DR. GERSTER said that perhaps he might be allowed to correct himself in so far as he said in his written history of the case, that he believed a solid clot filled that portion of the aneurism which belongs to the subclavian. The radial pulse had appeared only very lately.

DR. L. A. STIMSON referred to a case which he reported four years ago, in which he ligated simultaneously the carotid and subclavian for aneurism of the innominate artery. There remained a distinct pulsation in the sac above the clavicle. The patient died twenty-one months subsequently of acute phthisis, and at the autopsy the aneurismal sac was found completely filled by a firm clot, except for a very narrow slip-shaped opening, through which blood passed from the aorta to the branches of the thyroid axis.

Of course, it could not be said positively that the condition at the autopsy was the same as that which existed at the time the patient was presented to the Society. But there was up to the time of the patient's death pulsation in the sac the same as when he was presented to the Society. In his mind there was no question but that the pulsation was a communicated one; and in Dr. Gerster's case he should not regard the pulsation as proof positive that the sac was not occupied by a clot.

OSTEOPLASTIC EXCISION OF THE ELBOW-JOINT.

DR. L. A. STIMSON presented a patient upon whom he had performed excision of the elbow-joint. He thought it worthy of presentation because, first, the operation was a modification of one that had recently been introduced; and, second, because of the complete restoration of the form, and partial restoration of all the functions, of the joint.

The patient was a boy sixteen years of age, who, sixteen months before coming under observation, received a blow on the outer side of the left elbow, which was followed by swelling, heat, tenderness, and the formation of many sinuses in the arm and forearm. When Dr. Stimson first saw the patient the limb was swollen, the joint was painful. Though capable of some motion, there was lateral mobility, with grating. The excision was performed on the 17th of May last. An incision according to Ollier's method was made, extending along the outer aspect of the lower end of the arm, and then diagonally across to the olecranon and along its outer edge. From this, at the lower end, a transverse incision was made across the ulna. The joint was opened freely, and the olecranon divided obliquely backwards at its thinnest part. The triceps and the adherent posterior part of the olecranon were then reflected to the inner side and the joint freely exposed, the inner condyle denuded through a small incision over the epitrochlea, and then the humerus divided by a transverse cut through the epicondyles. The surface of the olecranon was freely scraped, and it was necessary to remove almost the entire coronoid process.

As this scraping had greatly enlarged the sigmoid cavity, he removed a segment of bone, one-fourth of an inch in thickness, adjoining the incision, through the olecranon, and thus shortened this cavity. Then, because of induration of the soft parts covering the front of the joint, he removed another slice, one-fourth of an inch in thickness, from the humerus. The sinuses were then freely scraped, and the limb was dressed in the usual manner. The olecranon was reunited by silver sutures. The course of the case was uneventful. The sutures were removed about two months after the operation.

The patient now has very free motion in the joint, and good restoration of the form of the limb. Extension is particularly strong; flexion is weaker than extension. There remains an opening on the inner side of the arm, but it does not communicate with the bone. The patient can flex and extend the elbow actively.

The bone was divided with an instrument brought to this country from England last spring, and consisting of a combination of forceps and chisel-shaped saw, called an exsector. It is like an ordinary forceps with the claws at right angles to the handles, and on the side of the joint there is a small, flat shell on a pivot, which holds the saw, allows it to be worked from side to side, and thus cut its way downwards along the sides of the claws. The instrument in his hands had proved very satisfactory.

DR. GERSTER could not share with Dr. Stimson in his good opinion concerning the instrument mentioned. He had used it five or six times, and had seen it used by other surgeons, and he must say that it had two disadvantages: First. It is a complicated instrument which easily gets out of order, and is very difficult to clean. Second. The leverage of the claws which take hold of the bone is disproportionally great, and he had seen the epiphysis of an infantile bone completely crushed by it.

DR. STIMSON had not encountered any of the objections which Dr. Gerster had mentioned with reference to the exsector. He had, however, found it necessary to round the corners of the chisel in order to make it work more easily. The excessive amount of force which the instrument was capable of exerting, Dr. Stimson thought, was within the control of the surgeon who applied it.

DR. W. S. HALSTED presented cases of

PARTIAL RESECTION OF THE ELBOW AND SHOULDER FOR TUBERCULOSIS, AND OF THE ANKLE FOR TRAUMATISM.

Case I.—Elbow; I. E. D., male, æt. 36. Patient believes that a brother died of consumption. Family history otherwise good. About two years ago, pain, spontaneous and insidious, developed in right elbow; until July, 1884, patient's suffering has been inconsiderable. His sleep was little disturbed, and moderate movements of the affected joint did not cause pain. Examination on admission, July 22, 1884: consolidation at apices of both lungs; urine, sp. gr. 1028, and contains oxalate of lime. Spindle-shaped enlargement of right elbow-joint. Fluctuating swellings to the outer side and back of both condyles of humerus. Flexion to an angle less than a right one, painful. Inner swelling incised and about one ounce of cheesy pus evacuated, and, September 3d, patient's elbow has for several weeks annoyed him greatly. Injections of iodoform ointment, through fistulous tract into joint, contributed at first to his comfort. Anodynes, even in large doses, give little relief. There is much redness about the joint, and the slightest motion causes great pain.

Operation: 9 A.M.; ether; Esmarch's bandage, and as strict antiseptic precautions as practicable.

Incisions: first, longitudinal, eight inches in length, parallel to and just inside of inner border of olecranon; second, transverse, at right angles to first incision, outwards to plane of radius, opening joint and dividing triceps muscle close to its insertion into the upper border of olecranon process; third, short longitudinal at right angles to second incision, and parallel to outer border of olecranon, to neck of radius.

Operator preferred dividing triceps to sawing through olecranon, as proposed and practised by Bruns, Mosetig Moorhof, and others, and by Dr. Stimson in the case just presented by him, because simpler in the first act, viz., opening the joint, and in the subsequent acts, should it prove necessary, as it almost invariably must, to remove the articular surface of the olecranon. The joint, then, being still more thoroughly exposed by liberating the sides of the olecranon from the triceps and anconeus attachments, all the articular surfaces were found to be more or less involved in the disease, which was distinctly tuberculous with, fortunately, sclerotic confines. The articular surfaces of the humerus, head of radius, and of both sigmoid cavities were sawn off; also the upper surface of the olecranon. Thus a rectangular replaced the sigmoid cavity somewhat as figured in Linhart's *Operationslehre*. The capsule and articular ligament were completely dissected out, and the walls of the sinus scraped with a Volkmann's spoon. The end of the humerus was sewed with catgut into the step made in the olecranon, and the space necessarily left between the humerus and radius was obliterated by turning into it the divided triceps and anconeus muscles which were retained by several sutures.

Other small dead spaces were obliterated by quill sutures. Wound closed by furrier's suture, and three short drainage-tubes introduced.

The dressing was applied previous to the removal of Esmarch's elastic bandage, and the limb, flexed to about forty-five degrees, was preserved from constriction by the introduction, in the dressing, of narrow strips of wood to distribute the pressure made by the tightly applied bandage. The arm was, of course, maintained elevated for about thirty-six hours.

Sept. 6.—Dressing changed; edges perfectly united; no signs of inflammation.

15th.—Redressed; drains apparently almost absorbed. No pus. Rectangular splint applied.

26th. — Small subcutaneous abscess in cubitus opened, apparently has no connection with the joint. The patient, as presented, seemed to have a perfectly healed joint. There still remained in the cubitus the mouth of a subcutaneous fistula, of about half an inch in length, which did not, apparently, lead toward bone.

Although but six weeks after the operation, the patient could flex and extend the elbow moderately and without pain. Dr. Halsted advocated partial as opposed to so-called typical resections of the elbow-joint for tuberculosis.

Case II.—Shoulder; I. H., male, æt. 15. No tuberculous heredity ascertained. All members of immediate family alive and healthy. About middle of April, 1884, wrenched left arm while lifting down a coal-scuttle. Felt pain immediately in left shoulder-joint severe enough to prevent sleep for three nights; on the fourth day pain had subsided, except on motion. A few days later, applied at Roosevelt Hospital Out-patient Department for relief. Examination: Muscles about joint much atrophied. Head of humerus affected; appears smaller than on sound side. Joint not thickened at any part; fixed by muscular action. Passive motion, and palpation of joint painful. No points of special tenderness. Treatment: Plaster-of-Paris splint.

Aug. 20.—The splint which was applied in April removed to-day. No pain whatever since its application. Fluctuating tumor, about size of pigeon's egg, at back of joint under deltoid muscle. Skin over it, normal.

26th.—About one drachm of flocculent pus withdrawn by Pravaz's syringe from abscess referred to in last note, and a few drachms of iodoform ointment (iodoform one part, almond oil two parts) injected into abscess cavity. Examination of pus by Dr. R. I. Hall reveals, from eight cover-glasses, five tubercle bacilli.

27th.—Patient is confident that he was benefited by the iodoform injections, and unwillingly allows repetition of the aspiration and injection of the cavity, which had more than attained its former size.

Sept. 14.—Condition essentially unaltered.

16th.—Arthrotomy; posterior incision through abscess leads directly into joint which is distended with pus. The much diseased head of humerus sawn off at surgical neck; glenoid cavity and capsule also extensively involved in the tuberculous process and scraped with sharp spoon. Furrier's suture; short rubber drain at lower angle of wound.

30th.—Two weeks after operation, original dressing removed. Wound healed, without pus to drainage-tube. Tube removed.

Oct. 10.—Second dressing.

Nov. 1.—Wound entirely healed. Free passive motion does not cause pain; active movements inconsiderable. Electricity to deltoid.

On presenting the patient, whom he had not seen for one week, Dr. Halsted discovered a small fistulous tract at the lower angle of the wound.

The interesting features in the case were its traumatic origin, immediate atrophy of deltoid muscle, the unsuccessful iodoform injections, the rapid healing of the wound, and the early partial restoration of function.

Case III.—Ankle; C. L., æt. 27; admitted to Roosevelt Hospital October 17, 1883. Just before admission, had been thrown from a horse, and, falling on his feet, his right foot turned under him.

Examination: Tibia and fibula protrude from an extensive wound on the outer side of the ankle, the foot being strongly supinated. Both malleoli are broken off and adherent to dislocated foot. Patient etherized; malleoli removed, and two inches or more of lower ends of splintered upper fragments of tibia and fibula. Furrier's suture. Rubber drainage-tube through joint.

Oct. 30.—Wound dressed for first time. Complete union along lines of suture.

Nov. 7.—Second dressing; superficial ulcers where drainage-tube had been.

Dec. 14.—Patient walks with crutches. On presentation, walks easily with lateral brace. Can flex and extend ankle quite as much as, if not more than, on sound side, notwithstanding the shortened leg bones.

Corrosive sublimate solution, 1 to 1000, was used as irrigation fluid and iodoformized gauze as dressing in the three cases. The wounds healed in all primarily.

Dr. Joseph C. Hutchison then read a paper, entitled

A CASE OF EXTRACAPSULAR FRACTURE OF THE NECK OF THE THIGH-BONE.

On the 31st of August, 1883, two gentlemen, one a medical man, 56 years old, weighing 204 pounds, and enjoying robust health, drove in a high-top buggy from Lake Luzerne to Lake George in order to make a professional visit. The horse seemed to be perfectly gentle, and required a good deal of urging to make him accomplish the trip in a reasonable time. The "turn-out" was furnished by a livery stable.

They drove up to the piazza of the Fort George Hotel, stopped, and, as they were preparing to get out, the horse suddenly started to run, and, making a short turn, the wheels became locked, the buggy was upset, and the occupants were thrown violently to the ground.

A medical gentleman who saw the accident hastened to assist his professional brother to get out of the way of the horse, which, after running some distance, turned and came back over the same road with the fragments of the wagon dangling at his heels, apparently with the purpose of finishing his work of destruction. The doctor had walked, with a little assistance, five or six steps to get out of the way of the running horse.

He suffered deep-seated and severe pain in the right trochanter major, which received the force of the blow, and at once concluded that he had an impacted extracapsular fracture of the thigh-bone. This opinion was based upon the fact that the pain in the trochanteric region was excessive, and it seemed impossible that so heavy a man, thrown violently to the ground from such a height and striking upon the the trochanter, could have escaped this fracture; and he inferred that the fragments were impacted because he had been able to take a few steps after the injury. So sure was he of his diagnosis that he requested the surgeon who was on the spot and assisted him in getting out of the way of the horse not to manipulate the limb for fear of disturbing the impaction. He did not lose consciousness, nor did he suffer from shock in the slightest degree.

The other gentleman got up immediately without assistance, but was greatly shocked, and it was subsequently found that he had a broken rib.

Soon after the doctor was put to bed he was carefully examined by Drs. S. W. H. Hall and G. E. Munroe, who were summering at the hotel, and also by Prof. Frank H. Hamilton, who was staying at a neighboring hotel. Two of the surgeons found from one-half to two-thirds of an inch shortening of the limb; the other, after repeated examinations, satisfied himself that there was no shortening. The was no eversion of the limb, and the patient was able to invert the foot to a moderate degree; there was considerable pain in the right groin and also in the trochanter. The pain in the trochanter was relieved instead of being increased by pressure. The skin was contused directly over the outer side of the trochanter, showing that the fracturing force was applied transversely to the axis of the neck of the femur. The absence of bruises at any other part of the surface proved that the trochanter had received the full force of the fall. No manipulation was made for the purpose of detecting crepitus and settling definitely the question of fracture. A positive diagnosis was not expressed at this time by the attending surgeons.

During the night the patient suffered greatly with pain about the upper part of the femur, which was aggravated by muscular spasms whenever he fell asleep. He was relieved, in a great measure, by lying upon the right trochanter; the pressure of the bed against it acting as a splint. He could not raise the heel from the bed, but was able to flex the thigh slightly upon the pelvis by bending the knee-joint.

On the following morning Dr. Hamilton observed depression of the right trochanter and an unnatural fulness in the inguinal region, which, with the development of muscular twitchings during the night about the seat of the injury, in addition to the signs previously mentioned, convinced him that there was an impacted extracapsular fracture. Dr. Hamilton stated that he regarded muscular spasm in this region after a recent injury as generally pathognomonic of fracture of the cervix femoris—a statement which the writer does not remember to have seen mentioned by any author. The patient was advised to get to his home, two hundred miles distant, as soon as possible. No apparatus was applied, because it would have increased the inconvenience of transportation, and the surgical knowledge of the patient would induce him to keep the limb quiet and in the best position to prevent separation of the fragments. Owing to the crowded state of the cars at that season of the year, great difficulty was experienced in securing proper transportation. Finally, by the unwearied exertions of a friend, a private car was obtained from a distant city, and the patient was conveyed to it from the hotel very comfortably on an improvised stretcher. The transportation from the hotel to the city was under the direction chiefly of Dr. J. H. Sterling, of Brooklyn. The stretcher was borne by six men, two others accompanying it as a relief. The patient turned himself upon his right side, so that the trochanter major was well pressed upon.

The transportation to the car was comfortably made, and he was placed upon a spring mattress upon the floor. Soon after leaving Lake George, the car, which was the last on the train, bumped violently against the one in front, producing severe pain at the seat of the fracture. A second bump took place with a like result, and then the superintendent had the car well manned with a hand-brake, which prevented any further concussion.

The patient slept moderately well during the remainder of the night, and reached the Forty-second Street depot at seven o'clock the following morning, when he was met by an ambulance, which had been kindly furnished by the Brooklyn Health Department, and was conveyed to his residence. He was driven through New York and Brooklyn at a moderate pace, and expressed great satisfaction with his comfortable ambulance experience. He was strongly impressed with the superiority of this method of carrying the sick and injured over those formerly used. Before leaving the depot, a long splint was applied to the outer side of the injured limb; but the patient, finding it irksome, removed it, and again turned over on his trochanter. On reaching home, he was placed on Hooper's invalid bed, which he had purchased two years before in London; not with the expectation, however, that he would be the first to use it. He was then allowed to rest undisturbed until the afternoon, when Buck's dressing was applied by Dr. A. R. Paine, assisted by Dr. Rand. A ten-pound weight was used; not for extension, but to steady the limb and to relieve muscular spasm. This was soon reduced to seven pounds, with the addition of another pound at night. Lateral pressure was then made against the trochanter by means of a heavy bag of sand. This was suggested by the relief afforded the patient by lying on the trochanter before the leg was dressed. The pressure was kept up night and day for thirty-five days, and the patient was on the alert to have it closely applied because it gave him great relief. During that night, and for three succeeding nights, the muscular twitchings returned whenever he fell asleep, which gave him great pain at the seat of injury, lasting for half an hour. These spasms of pain were alleviated somewhat by fifteen drops of Magendie's solution of morphine given at bedtime.

On the third day after reaching home, five days after the accident, our patient requested Dr. W. S. Halsted to send him his modification of Volkmann's splint, which he intended to have applied if loosening of the fragments and eversion of the limb should take place. He believed that this apparatus would be more comfortable, if not more efficient, than the long external splint, in controlling eversion.

Dr. Halsted kindly brought the apparatus himself, and the patient and surgeon in charge acceded to his suggestion to apply it at once. As there was no separation or loosening of the fragments, and therefore no eversion of the foot, the only advantage which Halsted's splint had in this case over Buck's extension alone was that it enabled him to move more easily up and down in bed. Towards the end of the third week, a marked painless swelling, unmistakably callus, was noticed in the groin, just outside the femoral vessels, which disappeared in due time. On the fortieth day the dressings were removed; on the forty-second day the patient got out of bed, and, by the aid of a chair, crossed the room to a lounge; on the following day he moved about on crutches; and on the eighty-fourth day he laid aside his cane. During the whole period of his confinement to bed, all his functions were regularly and normally performed, and he felt perfectly well after the pains from the muscular twitchings, during the first week, had subsided. Eleven months after the injury there is nothing to indicate that the patient has had a fracture of the thigh, except the diminished prominence of the trochanter major, flattening of the corresponding side of the nates, and an unnatural fulness in the inguinal region; there is no limp; the motions of the joint are perfect; there are no osteophytes; and he exercises on horseback with as much pleasure and comfort as formerly.

It will be observed in the history of this case that two of the most important signs of fracture of the neck of the femur, whether impacted or not, were absent, viz., pain on pressure over the trochanter and eversion of the limb. Pressure against the trochanter major, instead of aggravating the pain, gave great relief, and on that account was constantly kept up; first by lying upon the trochanter, and after the apparatus was applied by means of a large sandbag. There was absolutely no eversion; the position of the foot was normal; and the right foot can now be inverted and everted as far as the left.

Outward rotation of the limb in impacted, as well as other fractures of the cervix femoris, is the rule, but exceptional cases are recorded in which the limb was inverted, or the position of the foot was normal, turned neither in nor out. The position depends upon the direction of the fracturing force.

This fracture is produced, in a great majority of cases, by falling forwards and on the side, striking the front and lateral aspects of the trochanter. The forces applied in this direction would inevitably produce posterior impaction and eversion as a consequence. But if the force is received upon the outer and posterior aspect of the trochanter, the anterior wall will be impacted, and we shall have inversion of the limb, and, when the fracturing force is applied directly upon the outer surface of the trochanter in the direction of the axis of the neck, as in the case here reported, the whole base of the cervix is implanted into the trochanteric portion of the femur, and the limb will retain its natural position.

When we remember that inequality in the length of the lower extremities is often a normal condition, which may have existed in this case; that there was no pain on pressure over the trochanter; that the foot rested directly upon the heel; and that the recovery was so rapid and complete, the question may naturally arise, Was this a case of fracture, or was it an injury which did not involve the integrity of the bone?

Every experienced surgeon is aware of the difficulties sometimes attending the diagnosis of fracture of the neck of the femur, especially when the upper fragment is firmly implanted into the cancellated tissues of the lower. A majority of the symptoms of fracture may be present in cases in which the neck of the femur is uninjured; and, on the other hand, fracture may be unaccompanied at first by the more important of the usual diagnostic signs. In cases of violent contusion of the periarticular muscles of the hip, all the component parts of the joint having received a severe shock, the result of a fall upon the trochanter, the symptoms at first are almost identical with fracture. In either case there may be eversion of the foot, shortening of the limb, which existed prior to the injury, an absence of crepitus, and an inability to raise the extended limb from the bed by a voluntary effort. In such a case how are we enabled to ascertain the real nature of the injury? This can generally be done by observing the relation which the trochanter major bears to the anterior superior iliac spine. When the relative position is the same on each side, it usually indicates that there has been no other injury than contusion; but when it is altered in a joint previously healthy it denotes the presence of fracture.

A change in the normal relation of the two processes does not, however, always indicate the existence of fracture. A change in the position of the trochanter major, with reference to the iliac spine, may have been produced by chronic rheumatism of the hip-joint. In such a case the bearings of the trochanter with respect to the iliac spine will not serve as a diagnostic mark between a contusion of the hip and an impacted fracture of the neck of the femur. The previous history of the case will, however, assist in determining the nature of the lesion. In investigating these injuries, however, we should not form our opinions from any particular symptom, but all the symptoms which the case presents should be considered in order to arrive at a correct diagnosis. In the case under consideration the pathognomonic symptoms of fracture were, first, depression of the trochanter major on the injured side. This process was, according to the measurement of Dr. Halsted on the fifth day after the injury, three-quarters of an inch nearer the iliac spine on the right than on the left side. Second. The spasms or twitchings in the muscles surrounding the joint during sleep and continuing five days. Third. The deposit of callus towards the end of the third week in the groin, on the outer side of the femoral vessels, and just below Poupart's ligament.

An interesting incident in the case was the variation in measurements by the three surgeons who first saw the patient—all men of large experience in the treatment of fractures. This is, I believe, not an uncommon experience. We cannot always be sure that we have measured from exactly corresponding points on the anterior superior spinous process of the ilia.

Before getting out of bed measurements were repeated by Dr. E. R. Squibb and Dr. A. R. Paine with great care. They found from a quarter to a third of an inch shortening. On June 14th the patient was measured by Prof. Frank Hamilton, who found only one-sixth of an inch shortening. He remarked that he had never before seen so good a result after such an injury. The small amount of shortening indicated that the impaction was not deep, and yet it was enough, with intelligent care on the part of the patient, to prevent separation of the ends of the fragments. The diagnosis of fracture was sufficiently clear in this case without manipulation. But, had there been a reasonable doubt of the nature of the injury, violent manipulations would have been manifestly improper. The utmost caution was observed in examining the limb.

In any case of suspected impacted fracture of the cervix femoris the discreet surgeon will prefer to treat the case as one of fracture, rather than incur the risk of damaging his patient by instituting such an examination as is necessary to produce crepitus. This rule should be observed even when the bone is not impacted in the best position. It is better that malposition of the limb should not be corrected than that impaction should be broken up by unwarrantable manipulation and the union of the fragments thereby endangered. The most important feature in the treatment of such cases is, therefore, to maintain the impaction. This can be best accomplished by keeping the patient at rest; by avoiding undue manipulations; by moderate extension in the straight position to steady the limb; and by lateral pressure over the trochanter by means of a sandbag, or a long external splint, or by the use of Volkmann's splint.

Violent extension would disengage and displace the impacted fragments, and make non-union almost inevitable. If, for any reason, it is necessary or desirable for the patient to go out before firm union of the fracture has taken place, this may be done with safety at the end of the fifth week by applying one of Johnson's felt splints, or some similar appliance, enveloping the body to midway between the hip and axilla, and the thigh and leg to midway between the knee and ankle. The felt is made pliable by holding it before a fire, or immersing it in hot water, or, still better, by covering it with a wet cloth and softening it by a hot smoothing iron. It is then applied over a tight-fitting pair of drawers and rapidly covered with a bandage. The splint adapts itself to all the inequalities of the surface, and, if well applied, does not make undue pressure at any point.

Our patient amused himself by applying this splint to the sound limb while in bed, and found that it made the joints absolutely immovable. The objection suggested to its use is the danger of disturbing the fragments during its application. It is much lighter than plaster-of-Paris bandages, can be applied with more facility, and with less danger of deranging the fragments.

The rapid and perfect recovery was an interesting feature in this case, and was duly appreciated by the patient. He knew that a more perfect result would be obtained by establishing motion in the joint as speedily as practicable. He had never permitted a patient to get out of bed so soon, nor would he do so now, notwithstanding his own favorable experience, unless the patient were a cautious surgeon and fully appreciated all the circumstances of the case.

DR. FRANK H. HAMILTON was invited by the President to open the discussion on Dr. Hutchison's paper, and said: I consider this paper of very great interest not only in its simple narrative of the case, but in the valuable suggestions which it contains, and the more so because the author of the paper is a surgeon of distinction and experience, and therefore relates more intelligently his own personal experiences than could have been related by a second person. For these reasons I hope the author will not withhold the name of the patient who received the injury.

As to whether or not this was originally a case of fracture, I assume that it was for one or two other reasons than those stated by Dr. Hutchison. I am in the habit of assuming, when a man of the age and weight of the patient falls violently upon the trochanter major that he has almost certainly received a fracture of the neck of the femur, probably extracapsular. In deciding in the case under observation as to whether it was a fracture or not, this was a very important factor in the diagnosis.

A second reason was, and of still greater importance perhaps, that there was a manifest depression of the trochanter major, that the limb was a little shortened, one-fourth of an inch perhaps, subsequently one-sixth of an inch, I might explain upon the supposition that this was normal. On the other hand, it might be that the shortening was actually greater than was represented by the measurements because the injured limb was perhaps normally longer than the opposite limb. But that there was shortening, all who saw the patient have asserted.

With regard to the muscular spasms of pain, I do not say that they are absolutely diagnostic of an extracapsular fracture of the femur, but while they are often present in fractures of the shaft, they are almost universally present in fracture of the neck, especially if extracapsular. I have explained this on the supposition that the muscles and nerves in the vicinity of the fracture have been injured somewhat. The fulness in Scarpa's region which occurred later, and which the doctor recognized, would at least lead us to suspect fracture.

All the circumstances point so distinctly to extracapsular fracture of the neck of the femur that I do not think we can entertain a doubt of its occurrence, but the greatest doubt is thrown upon the case by the remarkable result; that is, there is no eversion, no osteophytes are apparent, and the shortening is very slight.

DR. W. S. HALSTED said that when he examined the patient referred to by the author of the paper, he made out from five-eighths to three-quarters of an inch shortening, not only by measuring from the anterior superior spine of the ilium to the external malleolus, but also along Bryant's line. It seemed to him to be sufficiently easy to tell whether the shortening was due to fracture of the neck or not by measuring from the top of the trochanter to the malleolus on both sides; and if the shortening along Bryant's line corresponded to the difference in measurements made from the anterior superior spines of the iliæ to the malleoli, it was fair to suppose that fracture existed.

He also noticed that the affected side was flattened extero-internally, and that there was an abnormal fulness behind the great trochanter, which strengthened his belief that a fracture existed.

DR. L. A. STIMSON thought the two opposing facts mentioned by Dr. Hamilton did not seriously affect his diagnosis. There were many specimens showing that repair had taken place without the formation of osteophytes; and as to eversion or limitation of inversion, that was a symptom dependent upon mechanical conditions which might or might not present—for example, impaction with outward rotation of the shaft upon the neck. If the impaction took place, as in Dr. Hutchison's case, without such rotation, the range of eversion and inversion would not be modified.

The occasional great difficulty of reaching a diagnosis was admitted by all. In a case recently under his own care, a fall upon the trochanter while walking, the limb was slightly inverted, and shortened half an inch, and the trochanter one-third of an inch further from the median line; no pain or pressure in front of, or behind, or upon the trochanter; inability to raise the head. Several surgeons saw the case, but declined to make a diagnosis. The shortening increased during the next week to one inch, and Buck's extension was applied, and in due time the patient left the hospital, walking without a limp, but with three-quarters of an inch shortening.

In another case, sent to Bellevue from another hospital with the diagnosis of fracture of the neck of the femur, there was inability to walk or raise the heel from the bed, and sharp pain on pressure behind the trochanter; doubtful shortening of one-quarter inch, no fulness of Scarpa's space, no pain when the limb was forcibly pressed against or pulled away from the body. The patient was left without any dressing, and in two weeks was able to walk easily with only a slight limp. He was more than fifty years old.

DR. C. K. BRIDDON saw, some years ago, a case similar to the one related by the author of the paper. The patient was on a pleasure trip, more than a hundred miles distant from his home, when he was thrown violently, his hip coming in contact with the ground. He was transported on an extemporized stretcher to a baggage car to his home, where Dr. Briddon saw him in consultation with his family physician. The limb was disabled, he complained of a good deal of pain, could not raise his heel from the bed, there was slight eversion, the movement of inversion was limited, there was about half an inch shortening, gentle rotation of the thigh elicited no crepitus, and when the trochanter was grasped during such movement it was manifest that it described the arc of a lesser circle than on the opposite side; the diagnosis was impacted fracture of the neck of the thigh-bone.

Rotation of the femur revealed one symptom which Dr. Briddon had always regarded as characteristic of the lesion. In an *unimpacted* fracture, when the trochanter is grasped during rotation, it will be felt that it is rotated through the axis of the shaft; when the fracture is *impacted*, the trochanter moves through an arc of a circle of which the head of the bone is the centre, and the excursion made by the trochanter will depend upon the depth of the impaction. Another symptom referred to in the case reported, was "fulness in the upper part of Scarpa's space." This could be sometimes felt in lean patients as a more or less bony prominence in the region of the neck, and, with the symptom of eversion, depended upon the manner of impaction, which was accounted for by anatomical considerations brought prominently before the profession by Prof. H. J. Bigelow in his essay on *The Hip*. From the examination of a number of museum specimens, Dr. Bigelow had concluded that the posterior portion of the neck was always driven in, and that the anterior portion was bent at an angle prominent in front. To ascertain the cause of this, sections of the sound bone were made, and it was found that near the junction of the neck with the head of the bone, the anterior and posterior walls were of nearly equal thickness; but that as the lower surface of the neck was approached, the anterior wall becomes of great thickness and strength, while the posterior remains thin, especially at its insertion beneath the posterior intertrochanteric ridge, where it is thin as paper, hence it is that the posterior portion of the neck is driven into the cancellated structure of the trochanter, causing the prominence in front and the slight external rotation, and the other signs already alluded to.

Dr. Briddon stated that he had at the present time a patient under his care in the Presbyterian Hospital, in whom all these signs were made out by the most gentle manipulations, and without disturbing the relations of the parts, and he considered it as most important to avoid such handling as would be likely to break up any existing impaction,

Dr. A. C. Post said that the case related by the author of the paper did not seem to accord with the opinion of Robert Smith, of Dublin, who states that in extracapsular fracture the initial force which occasions the fracture always causes impaction; and if more force than that which causes the impaction is applied, it splits the bone through the trochanters, and the impaction is relieved.

The degree of violence in Dr. Hutchison's case seemed to be sufficient to relieve impaction by splitting the bone at the junction of the trochanters with the shaft, and in this respect the case was exceptional; and the absence of splitting the shaft of the bone would explain the absence of osteophytes.

Dr. Post further remarked that the ability to walk was not proof positive against fracture. Not long ago he saw a case of intracapsular fracture of the neck of the femur in which there was doubt with regard to the existence of fracture. The patient after a few days did walk, and there was subsequently displacement which left no doubt with regard to the existence of the fracture. Such instances, he thought, were not very rare in which, the parts being held together firmly, the patient may walk, and we may assume that in such cases the parts may unite without further separation.

Dr. L. M. Yale referred to a marked case of this character which he saw eighteen years ago, and in which the patient fell, receiving his injury, walked a distance of one hundred feet, entered the wards of the hospital, and went to bed. It was a doubtful case of the kind; but as the symptoms were those of probable fracture, he was sent to the Charity Hospital, where he subsequently died of an intercurrent disease. The autopsy revealed impacted fracture of the neck of the femur.

Dr. L. A. Stimson referred to a case occurring in a patient sixty-three years of age, who received an injury of the hip, walked down one staircase, along the hall, down the next staircase, and then was unable to walk, and was brought in this condition to the hospital. The patient died three weeks subsequently of erysipelas, and at the autopsy Dr. Thomson found a pure intracapsular fracture of the neck of the femur.

Dr. Sands said that Dr. Hutchison's case afforded a striking illustration of the difficulties experienced in determining the comparative length of the two limbs according to our customary modes of examination. It seemed that, of the several surgeons who examined the limb, no two reached the same conclusion, and that there was so great difference of opinion as to make the shortening in one instance one-sixth of an inch, and another from one-half to three-quarters of an inch, both surgeons presumably measuring between the same points. Of course, it would not be fair to assume that the length of the two limbs varied at the times they were measured, and the discrepancy arises from the difficulty in ascertaining what are called bony points. Such difficulty makes untrustworthy the reports which are published of the results of treatment; for similar inaccuracies must occur in measuring the limbs after a fracture has consolidated. In very many cases, it may be easy to fix upon the bony points for measurement; but in persons who are fat, it may be difficult or impossible to recognize them. Dr. Sands had sometimes experienced the same difficulty in obtaining definite results with Bryant's test, and believed it to be untrustworthy when applied to those in whom adipose tissue is abundant. The difficulty consists in recognizing the bony points, namely, the anterior superior spinous process of the ilium and the tip of the great trochanter. Dr. Sands thought that in cases of fracture the old-fashioned method of bringing the feet together—avoiding any obliquity of the pelvis—and then comparing the two internal malleoli, would often give results quite as correct as those obtained by methods which we are accustomed to regard as more scientific. He believed that the practice of measuring between the iliac spine and the malleoli was far more prevalent in America than in Europe, where but little confidence was placed in it.

Dr. McBurney referred to the case of a man, about forty years of age, who three weeks ago came under his observation after the receipt of an injury of the left hip. The disability was great; but there was neither eversion nor inversion. As the patient lay upon a flat surface, it was evident that there was apparently very great shortening of the limb on the injured side; that is, the sole of the foot on the injured side was drawn markedly above that on the uninjured side. On measuring the two limbs, a curious discrepancy was detected. Measurement on the injured side, from the anterior superior spine of the ilium to the malleolus, showed that there was one inch and one-quarter *lengthening*. The absurdity of this was very apparent; and on a further inquiry and examination, it was found that the patient had had necrosis of the right tibia many years ago, this leading to improper growth of that bone, and on measurement it was found that the entire discrepancy was in the length of the two tibiæ. Dr. McBurney then measured along Bryant's line, and found that the measurements were equal on both sides. The case proved to be one of contusion and not fracture.

Dr. L. A. Stimson said that at one time he measured a large number of cadavers, and afterward laid bare the bony points, and repeated the measurements, and found considerable discrepancies between the results of these two measurements.

The President. But does not the fact remain that if unreliable within small ranges for diagnostic purposes, yet in actual practice the method of measuring from the anterior superior spine of the ilium to the malleolus is for prognosis sufficiently trustworthy, as it is the common acceptation that if there is three-quarters of an inch or less of final shortening the patient will get along without limping?

Dr. Sands thought that the case reported by the author of the paper was one in point. The patient was examined by two competent surgeons. One determined the existence of one-fourth of an inch of shortening, which afterward he reduced to one-sixth of an inch, and the other found from one-half to three-quarters of an inch shortening. Now, if this had been a case in which the *result* of treatment was the point to be decided, two surgeons, equally competent, and employing the same method of examination, would have failed to reach the same conclusion.

THE PRESIDENT said all would agree that it was sometimes very difficult to determine exactly the situation of the bony points, still he did not know of any readier way in making out the actual length of the limb.

DR. HALSTED thought the better way was to use Bryant's test.

OBSTETRICAL SOCIETY OF PHILADEDPHIA.

Stated Meeting, November 6, 1884.

THE PRESIDENT, R. A. CLEEMANN, M.D.,
IN THE CHAIR.

DR. B. F. BAER presented the specimens and read the following report of a case of

PLACENTAL POLYPUS, WHICH SIMULATED MALIGNANT DISEASE OF THE UTERUS.

The patient was 35 years of age, married, and had two children at full term, the last twelve years ago. She has had several abortions since, but otherwise she has enjoyed good health. Her mother died at the age of thirty-eight, of cancer of the uterus. In the early months of this year, our patient first noticed that her catameniæ were becoming too frequent, and were attended with expulsive pains and a fetid watery discharge in the intervals. The blood loss increased in quantity, and she soon began to show sings of failing health in pallor and loss of flesh. She would not permit a physical exploration until the latter part of July, when she had a violent flooding, with great pain. *Examination* now revealed to Dr. R. Armstrong, of Lock Haven, Pa., whose patient she was, a healthy condition of the cervix and a normal os, but the body of the uterus was enlarged to more than double its natural dimensions; it seemed to be symmetrical and rather softer than usual. The hemorrhage was controlled by ergot and rest. Although the grumous, fetid discharge and the uterine tenesmus continued, she did not have another severe attack of metrorrhagia, probably because of her exsanguine condition and the fact that she was suffering from septic absorption. Her temperature rising as high as 104° in the afternoon, she had distinct rigors. Her abdomen was tympanitic, and very tender to the touch. The physical condition of the uterus led the doctor to introduce two tents into the cervical canal on September 23d. They were allowed to remain twenty-four hours, although their presence increased the violence of the symptoms. When the tents were removed, a rather soft, friable mass could be felt presenting at the internal os. This led to a fear that the disease might prove to be malignant. A severe colliquative diarrhœa now set in, and the patient's strength became so much reduced that nothing could be done except to administer remedies to check the diarrhœa and prevent collapse.

On the morning of the 25th, through the kindness of Dr. Armstrong, I saw the patient; temperature 103°, pulse rapid and weak, stomach irritable, rejecting everything taken, bowels still quite relaxed. Her face presented the ashy hue of malignant disease. The outlook was not favorable for an operation, which would necessitate the dilatation of the cervix sufficiently to remove the diseased tissue which evidently occupied the uterine cavity, but it was the only course to pursue. Ether was administered. The uterus was found retroverted, and adherent to the floor of Douglas's cul-de-sac. The cervix was rigid, and but slightly patulous. In view of the existing peritonitis, we concluded that it was best that I should endeavor to remove the contents of the uterus without a further attempt at dilatation, fearing rupture of adhesions and increased inflammatory action. I passed the wire loop of the écraseur through the os, and by careful manipulation luckily succeeded in guiding it over the tumor and up to its attachment. Drawing upon the wire, it closed around the pedicle and severed it. The tumor was seized with a volsella forceps and delivered. The index finger could now be passed into the cavity of the uterus. The pedicle was situated on the posterior wall near the fundus. The tissues at that point were soft and friable, but the remainder of the surface of the uterine cavity appeared to be free from disease. The stump was cauterized with nitric acid, and a two-grain opium suppository placed in the rectum. Convalescence was rapid and satisfactory.

On section and close examination the specimen very much resembles placental tissue, and the microscope shows typical placental villi in its structure. It is the placental polypus described by C. Braun in 1851, and somewhat resembles the fibrinous polypus of Kiwisch, who taught that these polypi might arise from long persistent hemorrhage, a kind of apoplexy of the womb, a large coagulum forming, the upper part consisting mostly of fibrin and adhering by a stalk to the uterine wall, whilst the lower consists of red, soft coagulum having a coat of firm fibrin. Scanzoni does not admit this view. He contends that these are cases of abortion, and would, therefore, fall under the class of placental polypi (Barnes). My own experience agrees with that of Scanzoni. These polypi cause profuse metrorrhagia, and sometimes, as in this case, blood poisoning.

This case furnishes another strong argument in favor of the entire removal of the decidua or placenta after abortion. Who can tell how many lives are lost, or in how many cases the health is undermined by a neglect of this procedure? Death would inevitably have occurred in this case, if the uterus had not been emptied. The patient may suffer for months or years as a result of neglect. In this instance, the fault was in the patient, for she had been properly advised by her physician. It is true that many cases escape without serious injury, but that does not prove that the principle and practice of immediate removal is not always the safe one; for here is a case in which a neglected abortion had apparently passed off safely, but it almost destroyed the patient's life a long time afterwards.

Malignant disease was properly suspected from the rapid development of such grave symptoms, from the general cachectic appearance of the patient, and from the sensation conveyed to the finger when touching the growth *in situ*. But when it was found that it had a limited point of attachment, and that the uterine cavity was healthy at all other points, this hypothesis was weakened; and when more careful examination of the specimen, and investigation with the microscope showed it to contain placental villi, its benign character was assured.

Dr. Montgomery remarked that in cases in which partial dilatation of the uterine canal had been accomplished before the patient presented, the best instrument to continue the dilatation is the mechanical urethral dilator of Dr. A. H. Smith.

HAIRPIN IN THE UTERUS.

Dr. B. F. Baer exhibited a hairpin, removed from the uterine cavity of a patient, sent to him by Dr. Pancoast, of Camden, N. J. The woman, believing herself to be pregnant, had tried to produce an abortion by inserting the pin by grasping the points, and inserting the blunt end. The patient had obtained a view of the parts in a mirror placed upon the floor. The presence of the pin was readily detected by the uterine sound. He at first thought of dilating with tents, but the patient being greatly alarmed and very importunate, he used the steel dilator. One point of the pin became embedded, in its descent, in the tissues of the cervix, and required dissection to release it.

Dr. Wharton Sinkler exhibited a hairpin removed from the vagina of a patient who had tried to introduce it into the uterus to produce abortion. She had failed in her purpose, and had also failed to remove it from the vagina. The doctor found the points of the pin widely separated, presenting downwards, and hooked into the walls of the vagina. By bringing the points close together, the pin was removed without difficulty. It had been in the vagina for some time.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, November 17, 1884.

The President, William Detmold, M.D.,
in the Chair.

Dr. Charles A. Leale read a paper, entitled

A STUDY OF ASIATIC CHOLERA DURING THE EPIDEMIC OF 1866.

The subject, he said, was of interest, in view of the fact that America was again threatened with cholera. Having mentioned that there was at present a considerable outbreak of the disease in India, he referred to the recent epidemics in France, Spain, and Italy, and to the present visitation of the city of Paris of the scourge. It had not as yet appeared either in Great Britain or the United States, but it seemed improbable that we should escape. Still the experience of the past showed that this country might be kept free from it if the greatest possible precautions were taken to guard against its attack. If it should be introduced, it would be through the agency of commerce, and practically the only danger was from infected rags and the clothing of passengers.

In 1865 the United States were threatened with a visit from cholera, but it was not till the summer of 1866 that the outbreak of the disease occurred here. In 1866 there were 1158 deaths from it in New York City; but so vigorous were the measures adopted for its suppression that in the year 1867 there were but 27 deaths. During this latter year, however, cholera spread outward over the country to the extent of a thousand miles or more. The history of this epidemic showed that it was extremely difficult to arouse the public to an adequate sense of the danger of such an outbreak of cholera until it actually occurred, so that in the year 1865, when much might have been accomplished in the way of prevention, the health officials were not permitted to make the preparations and enforce the precautions which they deemed advisable. Another fact proved by it was that when such an epidemic had once broken out it was very difficult to keep the people from overdoing the matter of prevention, as regards taking unnecessary and injurious quantities of medicine, etc.

In February, 1866, Dr. Leale came to New York broken down in health from his arduous service in the army during the war, and, attending some of the lectures at the colleges, was much impressed by the teachings of Professors Alonzo Clark and Austin Flint in regard to the prevention and treatment of cholera, the correctness of which he not long afterwards had the opportunity of practically testing. In carrying them out he had the satisfaction of saving many useful lives. At this time Dr. Flint distinctly prophesied that cholera would be in New York before the end of the summer. Not long after this. Dr. Leale made a voyage to England, as a ship surgeon, for the benefit of his health, and, on the 2d of May, commenced the return trip from Liverpool as surgeon to the fine packet "Harvest Queen," a vessel of 1500 tons, with 836 passengers. At this time there were waiting in Liverpool for embarkation no less than 5000 emigrants, and cholera had already commenced to threaten them. Before sailing, therefore, he made a very rigid examination of all the passengers of the "Harvest Queen," with the result of excluding two of their number, one of whom—a young woman of twenty—had already been attacked with cholera. By the adoption of this precaution, and the enforcement of strict sanitary rules, he was enabled to reach America without having a single case of cholera on board, although the cabins were, in many respects, a typical hotbed for the development of the disease. The voyage, which lasted until June 4th, was very stormy, rendering it necessary to keep the hatches closed, and, as 600 of the passengers were seasick, there was plenty of filth and bad air, to say nothing of the overcrowding and the fear which the rough weather excited. Still, notwithstanding these favorable conditions for cholera, there remained something wanting, and that was the specific causative agent of the disease. On the day after this vessel sailed, another ship—the "Helvetia"—started, with 900 passengers on board. Cholera now developed, and she was obliged to put back; but, before the outbreak ceased, the surgeon and forty others fell victims to it. On the 29th of May she sailed again, and this time, on account of the efficiency of the sanitary measures resorted to, there was not a single case of cholera on board during the voyage.

Strict quarantine Dr. Leale regarded as essential; but in case of that failing to prevent cholera from reaching a city, it was the duty of physicians to report all cases immediately, and to coöperate with the Board of Health in preventing the spread of the infection. In this connection he referred to the admirable suggestion, afterwards carried out, which the President, Dr. Detmold.

made to the Board of Health in 1866, in regard to the purchase of the clothing and bedding of all cholera patients among the poor. Such effects could, therefore, be burned up with certainty, while previously it was too commonly the practice to hide such infected articles, and thus frequently assist in spreading the contagion. In the practical study of cholera, Great Britain had done more than any other nation, on account of the peculiar facilities for such investigations which the English physicians had; and the names of such men as Macnamara, Farr, Gull, Wilson, and others, would always be held in remembrance for the knowledge which they had contributed on the subject. Among the points which seemed to be established in regard to the disease were the following:

(1) The special causative agent of cholera was capable of adhering to various objects, and was portable.

(2) When not brought into immediate contact with portable substances with some power of absorption, it became lost.

(3) The period of incubation in cholera was exceedingly short.

(4) The application of artificial heat was of essential service in the treatment.

The first case which Dr. Leale saw in New York was that of Peter Crow, of 440 W. Fifty-second Street, a car-driver on the Tenth Avenue Railroad, who contracted the disease from sitting on some bundles of emigrants' clothing in the front of his car. This was at noon on August 12, 1866, and seven and a half hours afterward symptoms of cholera showed themselves. When seen by Dr. Leale, he was in the stage of collapse; but with great care and watchfulness, he was saved. Although the endeavor was made to keep the man's children away from the house, Dr. Leale's injunctions were disregarded, and during the next few days two children, aged respectively three and six years, were taken with the disease in its most violent form and died; the one seven hours after the appearance of the first premonitory symptom, and the other ten hours. The wife was taken August 19, but was convalescent on the 21st. She was much depressed, however, by the death of her children, and symptoms of typhus fever setting in, she died on the 24th. There were in all nineteen cases in this Fifty-second Street outbreak, and it was a fact that every case was contracted by direct personal contact with the infected clothing or bedding of cholera patients. Not one of the numerous individuals who were from time to time in the rooms of the cholera patients, but who did not come in contact with the *contagious virus*, suffered from the disease. An analysis of these nineteen cases showed that Peter Crow was in good health up to the time that he sat upon the emigrants' clothing on the street car; that not a case occurred in which there was no contact with the excretions of cholera patients; and that, if properly treated, the disease was of short duration. None of those treated early died, except Mrs. Crow, whose death was attributed to typhus fever following cholera; and the two children, in whose cases the onset of the disease seemed of peculiar violence and malignancy.

For one year Dr. Leale was visiting physician for the district lying between Forty-fifth and Eighty-fifth Streets and Fifth Avenue and the Hudson River, and in no instance was there any reappearance of cholera where it had once occurred. Animals were entirely unaffected by the disease, and he had a good opportunity for observation in this particular among the numerous shanties with which the district abounded. Dogs, chickens, goats, and cats were seen to swallow water or food contaminated with the excretions of cholera patients; but although they were kept under observation for a considerable time afterward, this did not seem to have the slightest ill-effect upon the health of the animals.

It seemed probable, therefore, that the specific cause of cholera found a suitable lodging-place only in the alimentary canal of the human subject. That the disease was due to a specific cause he could not doubt. While during the late war there were over a million cases each of intestinal and malarial disease, there was not a single one of Asiatic cholera.

He agreed with Dr. Lewis A. Sayre, when he said before the American Medical Association in 1866, that the Government would be responsible if cholera should obtain a foothold in America. A strict quarantine should be maintained; but a long detention at quarantine was wholly unnecessary, since experience had taught that an infected vessel and the clothing of her passengers and crew could be rendered perfectly innocuous within a few minutes by proper fumigation and disinfection. In the same manner Prof. R. O. Doremus purified the infected wards of Bellevue Hospital, so that on the very next day after the fumigation the late Dr. James R. Wood placed in them patients who had just undergone capital operations with entire confidence, as the result proved, that no septicæmic trouble would ensue.

In all the cases of cholera which came under his care, except those in Fifty-second Street, Dr. Leale had no difficulty in preventing the spread of the disease by fumigations of sulphur and other sanitary precautions; but in this locality new cases from time to time occurred, and so, at last, he appealed for help to Col. Edward Barry Dalton, M.D., at that time the efficient head of the health department. Col. Dalton promptly responded to this appeal, and personally coming into the district with a large sanitary corps, he removed all suspected articles and caused enormous quantities of chlorine to be generated in all the houses in which cases of cholera had occurred. The result was that not a single case occurred after this; and sanitary chemistry thus achieved a striking triumph.

In regard to the effect of cholera upon pregnant women, Dr. Leale had had the opportunity of making a number of observations, among which were the following: During an epidemic the fear of the disease might kill the fœtus or produce an abortion. If a pregnant woman took cholera, and recovered, the disease was likely to kill the fœtus, which might perhaps remain in utero until term.

Again, other pregnant women at the time of an epidemic of cholera, notwithstanding the most fearful agitation, would carry living children until the end of the full nine months.

Having mentioned that in case of a visitation of this country with cholera New York City would be a more satisfactory place of residence than many smaller cities, towns, and villages in the country, on account of the vigilance and efficiency of its sanitary service, he gave his conclusions. Among them were the following:

When Asiatic cholera appeared in America it was apt during the two or three years following its appearance to extend over the country. The disease seemed to be due to a peculiar ferment, the exact nature of which had not as yet been positively determined. It had been demonstrated that a decidedly acid condition of the alimentary canal interfered with the harmful action of this ferment. The disease was self-limited and of short duration. It was amenable to treatment and good nursing. In the treatment the recumbent posture, the application of artificial heat, and the giving of crushed ice or small quantities of water, to supply the waste of fluid in the system, are useful as adjuvants.

In giving nourishment, care was to be taken to avoid overloading the stomach, lest acute indigestion might be brought on. In the way of medicinal treatment, the following formula had proved of great service in his hands:

℞.—Morphiæ sulph. . . . . gr. j.
Tinct. cardamom. comp. . . . ℥j.
Tinct. capsici, ... ʒiij.
Spts. camphoræ, ... ʒj.—M.

Of this, a teaspoonful in two ounces of water was to be given every fifteen minutes, until the symptoms were rendered tolerable. It was then to be given at longer intervals until the effect of the morphia was seen in the diminished pupil, when it was to be temporarily suspended. This prescription might be required for at least three days. In some instances it was better to give the medicine in solid form. For the painful cramps so frequent in the limbs in cholera, circular pressure with the hand or with a bandage was very useful; the pressure to be removed as soon as the cramp was over. All the linen of the patient was to be subjected to dry heat or to a washing in a watery solution of alum (1 part to 50); alum being an excellent germicide, and doing no harm to the texture.

On motion of Dr. A. Flint, the discussion of the paper was postponed.

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, November 3, 1884.

The President, Dr. D. Hayes Agnew,
in the Chair.

TRACHEOTOMY WITHOUT A TUBE.

Dr. J. B. Roberts said that he had always used a canula in performing tracheotomy, but he had become so dissatisfied with the tube and the difficulty in keeping it free that he decided that the next time he did the operation he should omit the tube. He had had such a case that day in a child three years old strangling with not very marked symptoms of blood-poisoning from diphtheria. The attending physician considered it a case of croup. He opened the trachea in the upper part, cut out a rectangular piece, and on one side stitched the skin to the trachea, and attempted to do the same on the opposite side, but the suture pulled out and he decided not to reinsert it. He left the patient perfectly comfortable. He desisted from the attempt to put in more stitches, because he thought that the up and down movement of the trachea would take place better, the fewer the sutures. By pulling on the suture which is in place, the wound, which appears as a slit, can be expanded to three times its usual extent. This seemed to him better than the double canula, which is liable to become choked with secretion. He asked whether any of the members had had such cases, and whether ultimately there had been stricture or other difficulty.

Dr. Packard thought the great objection to cutting out a piece of the trachea was the danger of constriction of the canal. In one of his cases of tracheotomy, which did perfectly well, the child was brought to him several years afterwards, and the state ment made that it had occasionally a little stridor of the voice. This seemed to be due to the presence of a little fold of mucous membrane, perhaps at the upper part of the incision. Whenever the child took cold this became congested and swollen, and interfered with the passage of air. There was no tendency to suffocation. There was simply a hoarseness, which seemed to occur below the larynx.

In regard to the tube, he had no doubt that he lost one case, on the tenth day, from the rasping of the tube against the posterior wall of the trachea. The child had been breathing for an hour without the tube, but the physician, who had given the case unremitting attention, did not like to leave without inserting the tube, and he put it in. In a few hours symptoms of irritation of the trachea appeared, and the child ultimately died. There was some hemorrhage, and it was found that the trachea had been eroded by the tube.

He had only done tracheotomy without a tube in one case. That was in a boy, nine years of age, who was evidently suffering from diphtheria, and his only chance seemed to be from tracheotomy. He had no difficulty in attaching both sides of the incision in the skin to the trachea. The child died, however, within twenty-four hours after the operation.

One of the great advantages of the tube is that it enables the secretion to be entirely cleared away, so far as it collects below the tube, without its passing into the upper air-passages, and without its being swallowed. He thought it important to prevent the passage of diphtheritic exudation, if any such there be, into the air-passages, with possible infection of the system. He should be loath to cut out a portion of the trachea large enough to make any material difference in the passage of air. By making a simple slit long enough a sufficient opening is obtained.

If the tracheotomy-tubes could be made oval, with the long diameter corresponding with the slit in the trachea, it would be an advantage. A much larger tube could then be inserted without pressing on the walls of the trachea. It would also be an advantage to have the lower portion of the tube bevelled off posteriorly, so that it should not press against the trachea and produce erosion. The testimony in favor of tracheotomy without a tube, he thought was very strong.

Dr. J. H. Brinton recalled two cases, one in his own practice and one in that of another surgeon, in which the operation suggested by Dr. Roberts was performed. In both cases a parallelogram was removed from the trachea. These were cases of diphtheria. The membranes were readily ejected, and there was far less trouble than from the tube. Both cases, however, died from the impression of the diphtheritic poison on the system. In a similar case he should try to avoid the annoyance of the tube. In the cases referred to there was no difficulty in inserting the sutures.

DR. NANCREDE had seen Dr. Lenox Hodge perform a good many tracheotomies, and he did it very well, but on one occasion he had to give it up. When he got to a certain point, although the child had not been much cyanosed before the operation, the breathing became so much interfered with that he had to put in a tube. In this case the neck was not fat, and the trachea was prominent. He himself had performed one or two tracheotomies in children where the neck was so swollen that it would have been impossible to attach the skin to the trachea, and in which the tissues would have sunk in and closed the opening. He has frequently noticed in children, after diphtheria, that when the tube is taken out there is marked dyspnœa immediately. If the tube is left in for several days, ulceration might take place. It is the practice of some to remove the tube in twenty-four hours, examine it, and replace it, or use a tube of a different length or diameter.

DR. PACKARD said that a number of years ago he performed tracheotomy on a girl of twenty-one for laryngeal stenosis. Her life was prolonged seven years by the operation. In this case the tubes could not be removed for five minutes without causing great distress and alarm on the part of the patient and inducing a condition of cyanosis. The best plan in such cases would be to have two tubes, and when one was slipped out at once to introduce the clean tube.

There is an important point about the cleansing of the tube in children to which he referred. We generally consider that when we clean the inner tube that the air-passage is perfectly clear, but it sometimes happens that, notwithstanding the removal of the inner tube, there is still difficulty in the respiration. A feather may be passed into the trachea, removing a little mucus, but still the breathing is interferred with. He thinks that this is due to the gummy secretion on the outer tube and to the attachment of still other secretion at the lower portion, which is sucked up with expiration and constitutes a certain amount of obstruction to inspiration afterwards.

DR. ROBERTS had seen the same trouble. He had attributed it to a little plug of membrane acting as a valve. He had seen the trouble disappear in one case by removing the tube and having a large amount of material expelled by coughing. He had seen one case which died suddenly from closure of the tube, although an intelligent medical student was present at the time. This is one reason why he is anxious to get rid of the tube if that is possible.

DR. NANCREDE had had the same difficulty in keeping the tubes clean. In one case in which he performed tracheotomy for stenosis, he found hot soda water answer as well as anything. When he performs tracheotomy in children he always leaves a tracheal dilator with the friends, not that he thinks that they will be able to get it into the trachea, but if it is necessary to remove the tube they can stretch the tissues and in this way open the incision in the trachea. He saw a tracheotomy performed a short time ago in which the external incision and the opening into the trachea were free, but there was some irregularity in the two incisions, and he believed that the child would have died if the tracheal dilator had not been at hand. Although this did not enter the trachea, it separated the external tissues, permitting the entrance of air into the trachea.

When there is any question as to the plugging of the tube he takes it out and uses the long tracheal forceps. Last Christmas he saw a case on which he had operated two days before. When he got to the house the boy was blue. The tubes were clear; he passed the tracheal forceps through the tubes, but got nothing. He then removed the tubes and passed the forceps and removed a plug of membrane from the right bronchus, and also one from the left bronchus. The boy at once resumed his natural color, and for twelve or fifteen hours was perfectly comfortable.

He believed that the credit for a successful result after tracheotomy in croup belongs more to those who attend the case than to the operator. He always leaves directions that if there is difficulty in the breathing, the tubes are to be removed and the tracheal dilator introduced and kept in place while they send for him. Dr. Hodge's first successful case was saved in that way.

DR. J. EWING MEARS said that some years ago he had to perform tracheotomy suddenly in the course of an operation for excision of the tongue. He had no tracheal tubes at hand, but kept the opening patulous by means of a hairpin bent in the shape of an eye speculum. The following day the patient was breathing so comfortably with the improvised arrangement that he did not insert a tube.

The objection made against the posterior portion of the tube could be overcome by keeping the tube out altogether, and keeping the opening patulous with some other form of apparatus which would simply pass into the opening. Such an instrument would, he thought, possess a great advantage over the tube.

DR. PACKARD said that the idea which Dr. Mears spoke of is an excellent one and had been in his mind for some time. Mr. Kolbe devised an instrument for him somewhat on this principle. It consists of a steel plate, projecting from the posterior surface on which are two wire loops, the upper one being short and intended to keep the upper portion of the incision patulous, while the lower loop is longer and curved downwards and passes into the trachea, keeping the instrument in position. This longer frame is necessary. If it is not used, the swelling which occurs after the operation (he did not refer to the inflammation and induration, which is one of the most unfavorable signs in croup), but when the swelling in the neighborhood of the wound occurs the frame will be pulled out of the trachea and the wound in the trachea will be closed while that in the skin will be kept open.

DR. LEVIS had tried a number of expedients. One, that he liked very well, was to pass a wire stitch through the trachea, pass it through the integument, and afterwards stretch the integument. He had also used sheet lead, but this is liable to slip out. He has on some occasions cut out a piece of the trachea, but he does not like this very well on account of the stenosis which may follow. He has employed flexible tubes, and has sometimes fastened the tube to the skin by means of wire sutures, leaving the wire so that it could be untwisted. This is more pleasant to the patient than the use of tapes around the neck, which sometimes have to be drawn very tight. There is a disadvantage connected with the tube, and that is that the lower end of it may impinge on the trachea, causing ulceration and death.

DR. S. W. GROSS said that Dr. Roberts's point had not yet been answered. He wanted to find out whether stenosis results from excision of a portion of the trachea. This tube is made more or less rigid by its cartilaginous rings, and he should like some one to explain how stenosis can occur.

DR. LEVIS said that by the ordinary process of cicatricial contraction.

DR. S. W. GROSS did not believe that the excision of a portion of the trachea in these cases is ever followed by contraction. He knows of no reason why new cartilage should not be formed. He would suggest that this matter be made a subject of experimental study by Dr. Roberts.

DR. W. H. PANCOAST said, in regard to his father's experience in later years, that after making the incision he removed a little piece of the trachea. He also used a lead wire to hold the soft tissues apart.

DR. ROBERTS was inclined to think with Dr. Gross that the term stenosis, as applied to the trachea, is a fallacy. Such a limited excision of the cartilaginous and fibrous tissues should not produce stenosis. The cases of supposed stenosis may have been cases in which there was interference with rhythmical up-and-down movements of the trachea.

DR. MEARS said that if any portion of the tracheal wall was cut out, he thought that the tissue formed in repair would produce a band extending straight across. This would certainly reduce the calibre of the tube.

DR. W. W. KEEN called attention to the fact that no one makes an opening large enough for the free movement of the tube. If no tissue is removed, and the tube is left in for any length of time, necrosis of the cartilage occurs, and nature does what the surgeon does in the other case. If there should be any truth in this point about stenosis as the result of contraction, it seemed to him that it should occur in every case in which the tube has been left for any length of time.

CORRESPONDENCE.

VAGINISMUS.

THROUGH the courtesy of the Editor of *The Canada Medical and Surgical Journal*, we are in receipt of the following note:

DEAR SIR: The reading of an admirably written and instructive editorial in the Philadelphia MEDICAL NEWS for 24th November, on forms of vaginismus, has reminded me of a case in point which bears out, in an extraordinary way, the statements therein contained. When in practice at Pentonville, Eng., I was sent for, about 11 P.M., by a gentleman whom, on my arriving at his house, I found in a state of great perturbation, and the story he told me was briefly as follows:

At bedtime, when going to the back kitchen to see if the house was shut up, a noise in the coachman's room attracted his attention, and, going in, he discovered to his horror that the man was in bed with one of the maids. She screamed, he struggled, and they rolled out of bed together and made frantic efforts to get apart, but without success. He was a big, burly man, over six feet, and she was a small woman, weighing not more than ninety pounds. She was moaning and screaming, and seemed in great agony, so that, after several fruitless attempts to get them apart, he sent for me. When I arrived I found the man standing up and supporting the woman in his arms, and it was quite evident that his penis was tightly locked in her vagina, and any attempt to dislodge it was accompanied by much pain on the part of both. It was, indeed, a case "De cohesione in coitu." I applied water, and then ice, but ineffectually, and at last sent for chloroform, a few whiffs of which sent the woman to sleep, relaxed the spasm, and relieved the captive penis, which was swollen, livid, and in a state of semi-erection, which did not go down for several hours, and for days the organ was extremely sore. The woman recovered rapidly, and seemed none the worse.

I am sorry that I did not examine if the sphincter ani was contracted, but I did not think of it. In this case there must have been also spasm of the muscle at the orifice, as well as higher up, for the penis seemed nipped low down, and this contraction, I think, kept the blood retained and the organ erect. As an instance of Jago's "beast with two backs" the picture was perfect. I have often wondered how it was, considering with what agility the man can, under certain circumstances, jump up, that Phineas, the son of Eleazar, was able to thrust his javelin through the man and the Midianitish woman (*vide* Exodus); but the occurrence of such cases as the above may offer a possible explanation.

Yours truly,
EGERTON Y. DAVIS,
Ex. U. S. Army.

CAUGHNAWAGA, QUEBEC, 4th December, 1884.

NEWS ITEMS.

VIENNA.

(*From our Special Correspondent.*)

THE BACILLUS OF SYPHILIS.—Dr. Lustgarten, a young Viennese physician, who spent some months in Prof. Weigert's laboratory in Leipzig, and to whom a place as assistant in Prof. Kaposi's Clinic for skin diseases in the Vienna Hospital is reserved, will communicate to the Vienna Society of Physicians, at its next meeting, the results of his investigations in Leipzig. As those results will certainly attract much attention and interest wherever they become known, it is a happy accident that private communication makes it possible to lay in advance before the readers of THE MEDICAL NEWS a short abstract of Dr. Lustgarten's discovery.

It must be said, however, that Dr. Lustgarten is not to be considered as one of Prof. Weigert's pupils, but that he is only indebted to him for the facilities of his laboratory.

Dr. Lustgarten has found a new bacillus which he considers as characteristic of syphilis, since this bacillus has been found nowhere else but in syphilitic tissues, namely, in a gumma and in several cases of scleroma syphiliticum. The tumors showed, on thin sections, when treated in a specific way with certain coloring matters, bacilli, which, though in shape and size resembling tubercle-bacilli, could easily be diagnosticated as quite different from them by the reaction toward various staining fluids. Dr. Koch recognized the difference between both kinds of bacilli and the morphological individuality of the bacillus found by Lustgarten. There is one more distinguishing characteristic of the bacillus of syphilis, and that is that it never is found outside of cells, but always in their body.

The results of further experiments on the cultivation of the new bacillus, and on infection of animals by subsequent cultures of it, and further microscopical investigation, are to be expected before the last word on the new bacillus can be said.

NEW YORK.

(From our Special Correspondent.)

The Sample Distribution plan of certain pushing pharmacists has reached great and disagreeable proportions here. Our desks are loaded with bottles of cod-liver oil and malt in every possible combination and degree of nauseating stickiness, while beef peptonoids and purgative pills tell of the enterprise of these benefactors of humanity. There is a phrase among theatrical people who take a new play in the provinces before producing it in large cities—"trying it on the dog." How suggestive this is of the pharmaceutical possibilities that are given to us!

This nuisance is a great one, for it leads to the discontinuance, to some degree, in legitimate prescribing, and the medical man unconsciously advertises the wares which the patient subsequently buys for himself.

Novel Writing seems to be the rage among medical men, and the veteran Dr. Holmes, who set the example, is probably responsible for this order of things. Within the past year Dr. Weir Mitchell and Dr. W. A. Hammond have placed their productions before the public. If we are to believe the newspapers (which are generally well informed), Dr. Hammond has at least four new novels "on the stocks," some of which are to invade the field worked by Hugh Conway and Wilkie Collins. What a chance there is for other specialists! Now the gynecologist may weave a romance about the lost pessary, and call the heroine "Curetti;" or the surgical novelist may kill off his hero with strangulated hernia or epithelioma. It is reported that Dr. Hammond's successful novel, "Lal," is to be dramatized, and produced shortly.

PITTSBURG.

(From our Special Correspondent.)

Pittsburg Obstetrical Society.—On Tuesday evening, November 25th, a number of the physicians of Pittsburg and Allegheny organized the Pittsburg Obstetrical Society. Dr. G. B. Fundenberg was elected President; Drs. D. N. Rankin and John P. Sterritt Vice-Presidents; Dr. George MacCord Secretary, and Dr. Stevenson Treasurer. The constitution of the Philadelphia Obstetrical Society was adopted, with one or two slight changes. The code of ethics of the American Medical Association was adopted to govern the Society. The Society held its first regular meeting on Tuesday evening, December 3d. The exercises of the evening consisted in a lecture on lacerations of the cervix uteri by Dr. Sutton. The lecture was illustrated by beautiful drawings, and was followed by a fair discussion. It is the intention of the Society, when its membership has reached fifty, to have the proceedings reported by a stenographer and to some extent journalized. There are at present about thirty members; the number of members will not be limited.

The Cholera in France.—The Department of State has received official information through the French Ambassador at Washington that, excepting Toulon, cholera has entirely disappeared from France.

Cholera Items.—Official Consular sanitary reports from Rome state that there were 2774 cases of cholera and 1418 deaths in Italy during the week ending September 30th, and 773 new cases, with 451 deaths, for the week ending October 21st. The U. S. Consul adds: "The epidemic appears to be slowly reaching its end, and no official reports are being made for these provinces since the 21st of October." There were 12 deaths from cholera in Calcutta during the week ending October 18, 1884.

Previous to the official announcement, on the 6th of November, of the outbreak of cholera in France and Algiers, the following number of deaths are now officially acknowledged to have previously occurred from this disease: October 18th to the 25th—Marseilles 7, Niemes 4, Nantes 4, Perpignan 2, Le Havre 3, Algiers 45; total, 65. October 25th to 31st—Marseilles 2, Niemes 1, Nantes 25, Perpignan 1, Le Havre 3, Algiers 22; total, 54.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 2 TO DECEMBER 8, 1884.

Irwin, B. J. D., *Major und Surgeon.*—Granted one month's leave of absence.—*S. O. 112, Department of Arizona,* November 28, 1884.

O'Reilly, Robert M., *Captain and Assistant Surgeon.*—Assigned to duty as Attending Surgeon Washington City, D. C., to date from October 20, 1884.—*S. O. 284, A. G. O.*, December 4, 1884.

Kneedler, William L., *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Fort Abraham Lincoln, Dakota Territory, and ordered to Camp Poplar River, Montana Territory. *S. O. 140, Department of Dakota,* November 25, 1884.

Pilcher, James E., *First Lieutenant and Assistant Surgeon.*—To be relieved from duty at Camp Poplar River, Montana Territory, and ordered to Fort Abraham Lincoln, Dakota Territory.—*S. O. 140, Department of Dakota,* November 25, 1884.

McCaw, W. D., *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Fort Wingate, New Mexico, and ordered to Fort Lyon, Colorado.—*S. O. 228, Department of Missouri,* November 26, 1884.

Gray, Charles C., *Major and Surgeon* (retired).—Died at Geneva, New York, November 26, 1884.

Barrows, C. C., *First Lieutenant and Assistant Surgeon.*—In addition to other duties, to take charge of Medical Director Office, Department of Arizona, during absence of Surgeon B. J. D. Irwin.—*S. O. 112, Department of Arizona,* November 28, 1884.

The Medical News *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the News *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

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ORIGINAL LECTURES.

VERSIONS AND FLEXIONS OF THE UNIMPREGNATED UTERUS.

A Course of Lectures delivered before the Boerhaavian Society.

BY ELY VAN DE WARKER, M.D.,

OF SYRACUSE, N. Y.; FELLOW OF THE AMERICAN GYNECOLOGICAL SOCIETY.

LECTURE VI.

TREATMENT.

THE best evidence that any disease is difficult and uncertain in its treatment is the multiplicity of remedies that is suggested for its relief. The treatment of these forms of uterine displacements illustrates this. From the therapy of versions and flexions another conclusion may be drawn even more far-reaching: that by reason of these difficulties and uncertainties, and the contradictory agencies that are often equally potent to afford relief, there has grown up the powerful faction that proclaims the opinion that versions and flexions are without symptoms and do not require treatment. Take gynecology as it is usually practised and understood, and it is impossible to persuade a man who has straightened a flexed uterus only to find that all the symptoms persist unabated, that any of the symptoms were due to the distortion.

One measure of treatment nearly all gynecologists are united upon, be they mechanical or not in their notions of uterine pathology. This is the thorough treatment of inflammation both of the uterus and its near surroundings. In former lectures you could not fail to notice the important part this process played both in its etiological relations and pathological outcome. In making a vaginal examination in case of one or the other of these displacements two local conditions stand out in bold relief, objectively, the uterine deviation, and, subjectively, the exquisite tenderness of the organ. In recent cases so marked is the latter that we can do nothing unless we first overcome the uterine hyperæmia and tenderness. Dr. Routh gives an important place among others to this end, to local depletion. Scarification, in my experience, serves to meet this indication better than any other means I have tried. A few punctures a quarter of an inch deep in the vaginal portion bleed very freely, and nearly always stop as soon as the speculum is withdrawn. If the patient is not æenemic, this may be repeated several times at intervals of four or five days. Routh follows by blisters over the pubic region and glycerine dressings. A more potent agent is vaginal irrigation. Its value depends not so much upon the quantity of water used as upon the length of time the parts are exposed to the action of the current. It is not an unusual thing to have patients tell you that they have been using a pint or a quart of warm water, and always coupled with it the remark that they either felt worse after it, or it never made them any better. This quantity of water simply added to the local engorgement instead of relieving it. You may get a very perfect illustration of the effect of vaginatl irrigation by the washer-woman's hand. When she first places her hands in the hot water the skin becomes reddened and the veins are engorged. She continues at her work and this stage gradually merges into another,—the skin becomes pale, and the veins contract. In half an hour or so this secondary stage is completed and the skin is pale and wrinkled, The technical term of the wash-tub is parboiled. Now it is this secondary effect of the hot water, without the parboiled stage, that we desire to reach in vaginal irrigation. After providing my patient with a suitable apparatus, I tell her she is to use it twenty, thirty, or forty minutes as, in my opinion, she needs it or is able to bear it. A thermometer should always comprise a part of the apparatus, and to prevent breakage the tin case of the instrument may be soldered to the inside of a five gallon galvanized iron pail from which the water may be taken with either a siphon or by a hose connected with the lower edge. A temperature of from 100° to 110° may be used. I always give a margin of a few degrees in ordering the temperature, otherwise you will find your patient, if she is particular in following your instructions, experimenting with her hot and cold water in a vain attempt to reach the exact temperature. You cannot make this method too easy and comfortable for her, as I have very often found it difficut to keep patients up to efficient work with the vaginal irrigator, except under the discipline of a nurse.

To reach the same end, leeches have been applied to the groin and pudenda, emollients baths, lavements, and fomentations, and according to nearly all of the popular school, this must be done before any attempt is made to treat the displacement (Hall, Meadows, Tilt, Boivin and Duges, Bennett). "It is by no means illogical to treat the epiphenomena, the consequences of a disease, first. It was the grossest of fallacies to disregard these and to limit our attention to the presumed cause" (Barnes). On the contrary, the unpopular school tells you, that "to treat the inflammation of the uterus, without correcting the fault of position, appears as illogical as to apply a cooling lotion to a dislocated shoulder-joint" (Hewitt).

Now, these opposing statements cannot both be true, but since I have become familiar with the literature of versions and flexions, it has become clear to me that very often these observers with their diverse conclusions were usually writing about very different things. In proof of this, let me give you an extract from J. H. Bennett. He is talking about anteflexions of the uterus as long ago as 1857. What he calls a "normal anteflexion does not need treatment except what might be necessary to relieve the congestion of the organ." You will search in vain in the writings of a mechanical pathologist for a parallel expression regarding a flexion. Common sense will tell you that a "normal" anteflexion does not need treatment, and the same faculty will be a safe guide as to whether you are to stop and readjust the circulation of the engorged pelvic organs before you correct a faulty position. Therapeutics, within a field so narrow even as the female pelvis, is too wide in its dominion to be brought within the limits of hard and fast rules.

There is one group of these displacements, usually a beginning flexion, that may be discovered at about the conclusion of the puerperal state, in which the treatment just detailed will be found of great value. Massmann says, that this form, under early treatment, is one of the most curable of displacements. Its symptoms were described in the third lecture in the table compiled from E. Martin, and should be suspected in every instance in which the mother is unable to nurse her child. Frequent doses of a dilute solution of hydrochlorate of ammonium, owing to its peculiar power to resolve acute hyperplasias, will also aid materially.

In old-standing versions and flexions chronicity is the chief obstacle in the way of treatment. Few patients have the courage, and but few, therefore, meet with the reward, that results from the months, and in some cases the years, of treatment necessary to effect a cure. Some writers take the ground that curability is not a trait of many forms of flexions (Mundé). In these cases depletion is usually not to be thought of. In fact, we need greater energy of pelvic circulation in order to restore the balance of systemic nutrition. Iron, arsenic, quinine, with baths and liberal diet. The pain is usually neuralgic, or it may be of an inflammatory character but rarely, and require antiphlogistic treatment (A. R. Simpson). Physicians frequently tell their patients that if they can become pregnant and successfully reach term that their displacement will be cured. It is based upon good reasoning as will as upon good authority (Hewitt, Beattie, Ashwell); but if it were said rather, that a successful delivery put the distorted uterus into a condition to be cured, it would be a better way to express it. The case of old standing takes on the form of a recent flexion just spoken of, and all the precautions and treatment then mentioned become urgently demanded. If too much reliance were placed upon the curative power of pregnancy the organ would return to its former distortion.

Some authors make prominent mention of the sound as a means of uterine reposition, as well as of diagnosis. I cannot help regarding it as a dangerous instrument for either purpose. It has a fatal facility of use that leads to its employment in cases entirely unfit. There is an instrument invented by Sims, and "improved" by several people since, called the uterine repositor, that I regard as specially dangerous. The uterus is pried out of its malposition by machinery that robs the trained touch of its delicacy and in the hands of one unfamiliar with pelvic manipulations must be exceedingly dangerous. Very few gynecologists use it, but it is, unfortunately, in extensive use. Some gynecologists treat the flexed uterus by the daily, or frequent use of the sound, thus straightening the organ, sometimes supporting it directly after by plugs of cotton. Some good can no doubt be accomplished in this way, but it is excessively tedious and expensive to the patient. I have never employed it for this purpose except to prepare the uterine cavity for the intrauterine stem (Dumley, Earle, Rasch, Baker Brown).

Some years ago we heard much of the good effects of dilatation of the cervix in flexions. Various methods have been employed. Sponge, sea-tangle, and tupelo tents are the simplest means, and must for the time straighten the organ, provided the seat of the flexion is not too high. Moir followed the use of the tent by wire bougies covered with gutta-percha and gradually reduced in size, hoping by this means to induce the uterus to contract into normal form. Simpson invented bulb-ended graduated metallic dilators to be worn for a time by the patient. Braithwaite uses the sponge tent, which, after full dilatation, is followed by the introduction of a Hodge pessary. The most complete expression of the opinions of experts upon this method is found in the debate on the paper of the last-named author in the London Obstetrical Society, in 1879, in which a majority of those who took part in the discussion either ignored or were opposed to it.

For dilators, other than tents, results have been claimed. Hanks has invented a set of dilators of very faulty construction, as they are sharp instead of probe-pointed, by which he states that he has been able to relieve the dysmenorrhœa of flexions. I have tried them, and have secured only the most transient results. That a permanent cure could be gained in this way appears hardly probable, when we reflect how rapidly the effect of dilatation, that does not cause rupture of the tissue of the cervix, passes away. One effect of passing these uterine bougies or dilators I can understand would result from their use. This would be to allay a hypersensitive condition of the cervical canal, just as a similar condition of the urethra is relieved by passing moderately dilating sounds. I have observed that the passage of a dilator that produces moderate distention of the cervical canal a day or so before, or even during menstruation, will relieve this form of dysmenorrhœa; but the ensuing month the patient will suffer as much as ever unless the operation is repeated. As a careful examination of the cervical canal and os externum directly after the use of the dilator gave no appearance of dilatation, I came to the conclusion that the increase in size of the canal played but a small part, if any, in gaining this measure of transient relief. I could compare it to nothing except the use of the sound in the hypersensitive urethra. Concerning the use of tents or dilators as a preliminary to the introduction of the intrauterine sound, it will be better to reserve what is necessary to say to the final lecture on that instrument.

Another method closely allied to the last, in some respects, is division of the cervix uteri. This was practised for two purposes: First, to straighten the distorted canal; and, secondly, for the purpose of enlarging it. The first is the method of Sims and Emmet, and has, I believe, run its career of doubtful utility. We may call it a method of curing flexions without removing the disease. I have done the operation a few times only, but I never saw any good results follow. It is a formidable operation, and is not free from danger. I refer to it here for its historical importance. A modification of this method, devised by Peaseley, answers the second purpose of the operation, which, instead of a complete division, consists in making a slight incision the whole length of the canal and increasing its lumen. Peaseley severely criticises the operation of Sims; and, as I believe, very justly. If division of the cervical canal is ever necessary, the method last named appears to accomplish the purpose. From the rarity of any mention of either of these operations in recent literature, I believe that they are seldom resorted to. It was very popular at one time under the leadership of Simpson, Baker Brown, and Sims, when the hysterotome was considered as necessary a part of a gynecologist's outfit as a sound. I believe I am justified in saying that no other operation generally practised in gynecic surgery has offered an equal measure of injury and disappointment; and, strange to say, the very men to whom the questionable refutation of this operation was due, were the leaders of the faction against the intrauterine stem.

Although I speak in such unqualified terms of division of the cervix uteri, still I do use the knife upon the part whenever I meet with the condition that in my experience requires it, namely, what has been termed by some the "pinhole os." This condition is usually found associated with developmental flexions, and in that form known as anteflexion of the cervix as a rule. In these cases the most careful touch fails to locate the situation of the os externum. We are able to detect it only when we examine the part through a Sims's speculum and put the mucous membrane of the cervix on the stretch with a tenaculum, then the os externum appears as a minute opening on a level with the surface of the cervix, with sharply defined edges as though punched out. This is simply a membranous stenosis of the external os. If we explore the cervical canal beyond with a probe, we shall find it free from obstruction and as large in calibre as is normal. This membrane may be divided with so little pain that the patient will not be aware of it unless told, and with only a few drops of blood. I make three or four incisions through it, and insure against union by passing a sound for a few days. The relief afforded by this slight operation is sometimes very great, showing that the dysmenorrhœa of obstruction was not at the seat of flexion, as it very rarely is in anteflexion of the vaginal portion, but was owing to the obstacle at the os externum. I suspect that the relief afforded now and then by the severe operation of division of the cervix was in these cases of pinhole os, and could have been relieved just as effectually by this simple operation. This operation is quite necessary to insure the comfortable retention of the intrauterine stem, and, as the incision involves nothing but a duplicature of mucous membrane at the margins of the external opening, the introduction of the stem may directly follow the operation.

Posture has been resorted to in the treatment of uterine versions. Some of these postural treatments may be called very radical. One method suggested is to place the patient's head and shoulders upon the floor and her pelvis upon the bed. This position was to be kept for fifteen minutes. By this means the intestinal contents of the pelvis gravitated into the abdominal cavity, while the uterus assumed its normal position (Godefroy). The genupectoral position is a much more convenient method of applying the same principle. In retroversions without fixation, the posture is very efficient in aiding the reposition of the uterus. As a preliminary to the introduction of the Hodge pessary, it is very useful and in every way safer than the sound. That a flexion could be so treated, as claimed by Edis, would hardly seem practical. The position of the organ would of course be changed by the posture, but the distortion of its long axis would probably persist. Especially is this true of the developmental and the acquired flexion of long-standing. I have tested this method frequently in flexions, and have never failed to find that the uterus would assume its altered position with the flexion unchanged.

Women suffering from long-standing versions and flexions are generally thin subjects. In these cases Tilt recommends that the fattening process be undertaken. From what I have seen of these subjects, it would be a very difficult treatment. No doubt if the pelvic organs were well supported with fat a normal position would be preserved with greater ease.

Various operative measures have been undertaken. Shortening of the round ligaments has been tried very recently, but the operation is said to be a very difficult one, as the fibres of the ligament are not easily recognized. There is one objection to this operation as a means of radical cure, and this is, Why should not the shortened ligaments again stretch under the operation of the original morbid cause, and which by this operation is not removed? Perineorrhaphy for retroversion and elytrorrhaphy for anteversion have been tried. Boivin and Duges report a case of anteversion of many years' standing, caused by cellulitis in the course of the right round ligament, and which was cured by a free incision in the right labium, permitting the escape of thick pus; and Baker Brown advised the removal of the clitoris when the uterine distortion appeared due to masturbation. These various operations require no comment other than simple mention of the fact that eccentric ideas and operations always have, and very likely always will be, followed now and then in the treatment of versions and flexions.

This is the proper place to mention one method of treatment, concerning which it would be vain to make an attempt to reconcile conflicting opinion. This is the pessary. A noted gynecologist told me that a friend, also a distinguished gynecologist, called upon him. He said to him, "Look round my waiting-room and see if any of your former patients are there."

"Yes, I see several."

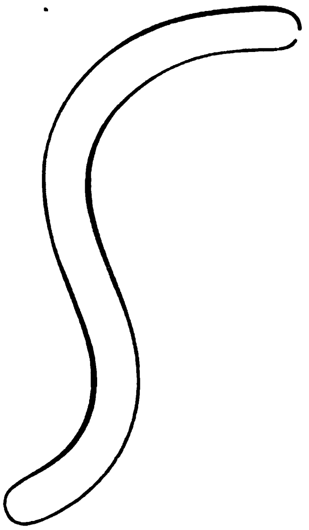
"How do you account for it?"

"I don't know. I am a better gynecologist than you are."

"I know you are; but I can explain the mystery. I use the pessary and you do not. Patients always seek the physician who can relieve them."

This anecdote is given to illustrate the extent to which, in both theory and practice, these rival schools clash on the subject of the pessary. Ten years have made a great change for the better among experts. The theory of the pessary is to a certain extent being reduced to a practical formula. You will no longer hear men rise in their places in obstetrical or gynecological societies, and publicly avow that they never use the instrument. In the sense that they all practise it, every physician is a gynecologist, and it is among this class that we find, at this day, the most bitter enemies of the pessary. A patient presents herself to her physician, who, on examination recognizes the fact that her uterus requires some form of mechanical treatment. He adjusts a pessary, but finds that he made his patient worse instead of better. It may be a long time before he makes another trial, and if he has no better success we are quite sure to count another enemy of the pessary.

The truth is, that the selection of a pessary suitable to the displacement and its proper adjustment, is one of the most difficult manipulations of office practice—difficulties that are not surmounted except by study and constant practice. You will understand that when I speak of a pessary in this lecture, I mean the vaginal pessary, and when I speak of a uterine displacement I allude to a version, for I firmly believe that no pessary acting within the area defined by the vagina, can straighten a flexed uterus. In giving instruction in the use of the pessary, I have always kept two points constantly before the mind of the student, first, to become well grounded in the theory of the pessary; and, secondly, to reach this theoretical ideal by the simplest means possible. Avoid, therefore, all complicated pessaries. If you cannot succeed in retaining a displaced uterus mechanically in position by means of a simple form of the instrument, you will fail with the more complex. I use for retroversions, copper wire rings covered with gum, which may be shaped into any form desired—usually a modified Hodge-Smith. The vulcanized pessaries of this form which are supplied by the trade, are very uncertain instruments, for the reason that they are made without any fitness for the case, and many sold depart so widely from the original model, that no vagina can contain them safely. The following figure shows a pessary of such extreme curve that it cannot be used, and all the pessaries made by the firm that manufactured the one from which this profile is taken, are after the same pattern. I have so recently gone over the whole subject of the action of pessaries in the correction of uterine version, and which is accessible to you in the *Transactions* of the American Gynecological Society for 1883, that it is unnecessary to reënter upon the subject here. One thing I may repeat with profit—briefly, we must abandon the theory of the lever action of the Hodge form of pessary. It draws the posterior vaginal cul-de-sac back and the cervix with it, and thus rotates the fundus forward; while the posterior vaginal wall is thus acted upon, the anterior is also carried backwards to a like extent. The greater the forward or upper curve of the pessary is, the more ample the vaginal displacement. Suppose we were to introduce a pessary of the form shown in the figure, the vaginal vault would be carried to such an extent backwards, that we would find the anterior vaginal wall placed violently upon the stretch. This is one reason why the instrument would quickly become intolerable to the patient. A moderate amount of anterior curve—much less than is usually found in the vulcanized form—is what I usually give in shaping the flexible ring. Always regard a patient who wears a pessary as under treatment. This is but one thing, among many others, that it is necessary to do to relieve the patient. A pessary can no more be trusted to do its work than you can trust a splint upon a fracture without supervision.



In anteversion we are dealing with a far more difficult problem—difficulties that in a large measure account for the number and extraordinary forms of the pessaries that have been invented. And here, as in retroversions, I have found simplicity in the mechanism of replacement to be a decided gain over the more complicated methods. Of late years I have found the various sizes of the last model of Thomas's anteversion pessary to answer every purpose in the majority of cases. The employment of the anteversion pessary implies extra care in the oversight of the patient. The anterior vaginal wall is exposed to considerable pressure and is very liable to ulcerate in consequence. Nothing but frequent removal and cleansing the part will prevent this accident.

Each one must learn for himself the application of the pessary, but you will have the lesson half learned at the outset, if you gain a realizing sense of the fact, that here we have one of the most difficult departments of minor gynecology.

In the concluding lecture I shall take up the important and hotly debated subject of the intrauterine stem.

ORIGINAL ARTICLES.

HYDROCHLORATE OF COCAINE IN THE TREATMENT OF NASAL AFFECTIONS.

BY CHAS. E. SAJOUS, M.D.,
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WHILE performing some experiments with the hydrochlorate of cocaine to ascertain its value as a local anæsthetic for intranasal operations, I noticed that when the mucous membrane covering the turbinated bones was distended—whether as the manifestation of either an acute or a chronic inflammatory process—one application of a four per cent. solution was sufficient to cause, in three minutes, its absolute collapse.[1] Not only did it return to its normal thickness, but, when applied to a membrane in which hypertrophic changes had not taken place, the contraction was so great that the conformation of the bony structure beneath could be easily discerned. The state of collapse continued for about half an hour, when the membrane returned to its distended condition.

A glance into the pathological anatomy of the catarrhal affections of the nasal cavities, excepting that characterized by atrophy, will make it evident that we have, in this contracting property of the drug, the very antagonistic power we require in the treatment of those affections. In other words, we have the mechanical constriction inducing absorption which we exert in a much less effective manner with astringents, and pressure by means of bougies, cotton wads, etc.

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[1] Dr. F. H. Bosworth, of New York, has reported similar observations, *Medical Record*, Nov. 15, 1884.

To illustrate better the force of this assertion, I am obliged to give an outline of the pathological processes of acute, chronic, and hypertrophic catarrh, the three affections in which the drug would seem to be indicated, basing the opinion emitted as to those pathological processes upon the observations of Rindfleisch, Cornil and Ranvier, Heitzmann, Green, Ziemssen, Lewin, Woakes, and others, and my own.

When an acute catarrh, or "cold in the head," is brought on by exposure to cold, the impression made on the peripheral nerves is transmitted through the sympathetic to the vaso-motors of the nasal membrane, and the result is a sudden contraction of its vessels, soon followed by dilatation. The flow of the blood through them is at first hastened, then slackened, and it accumulates more and more as the current becomes slower. After some time the engorgement becomes so great that the serum transudes through the vessel-walls, accompanied by leucocytes, fills the neighboring parts, causing distention, and penetrates through the epithelial layer to the surface of the membrane, dragging along with it some of the leucocytes, or pus corpuscles, and sometimes red corpuscles and epithelium. The distention would be limited, however, were the layer of venous sinuses, or erectile caverns—termed the "turbinate corpora cavernosa," and situated between the membrane proper and the periosteum—not present. These sinuses, most abundant over the turbinated bones, especially at their posterior portion, take an active part in the inflammatory process by becoming filled with venous blood. As the disease progresses, the secretion, at first thin and watery through the action of the hyperstimulated serous glands, which pour out their normal secretion in excessive quantities, becomes more and more charged with broken-down epithelial cells, lymph corpuscles, pus globules, etc., until it assumes the character of thick, tenacious mucus, or muco-pus, according to the cell elements held in suspension.

Reducing the above to its simplest expression, we have cold as a primary cause, and vaso-motor paresis as a result, followed by the symptoms of secondary dilatation of the bloodvessels: engorgement and transudation through their walls. If we now consider the action of the drug as described, and note, besides, the change of color occurring in the membrane, which sometimes becomes almost white, we can but conclude that it exerts its constringing influence by diminishing the blood-supply, and that in order to do this it must stimulate the vaso-motors. That it does it powerfully cannot be doubted, if we judge by the rapidity of action and the thoroughness with which it is exerted. The membrane proper must not only be influenced, but the venous sinuses must be completely emptied, in order to render possible the absolute contraction induced. To sum up, therapeutically, the powerful stimulation caused by the hydrochlorate of cocaine antagonizes the vasomotor paresis, thus counteracting the vascular engorgement and the transudation.

It is generally conceded, by the great majority of authors, that an attack of acute coryza cannot be arrested when it has progressed beyond a certain limit, this being due to the fact that the vaso-motors, at first paralyzed by the impression transmitted from the periphery, are kept so by the secondary vascular engorgement until the secretion of the membrane has become great enough to overbalance the vascular exudation, and thus relieve the intramural pressure in the vessels. But if we take in consideration the fact that we can, by powerfully and suddenly stimulating the vaso-motors by means of electricity, extreme cold (ice) or heat (galvano-cautery, or the flame[1]), cause the distended membrane to collapse, and remain so for a certain length of time, we can easily accept the fact that an agent possessing the same qualities as the above, without presenting the difficulties and giving rise to the secondary pain militating against their use, is a valuable acquisition to our list of remedies for the affection.

As a result of the above conclusions, I determined to try the effects of the drug in a case of coryza as soon as I should be called upon to treat one. But, none being forthcoming, I "took" a cold by exposing my head and neck to a strong draught. I soon began to sneeze violently, my eyes became suffused, and all the symptoms of a mild coryza set in, including "stuffiness," and consequent difficulty of breathing through the nose. Allowing the stage of dryness to proceed, I waited until free secretion had begun, then applied the four per cent. solution freely over the two inferior turbinated bones on each side. A sensation of slight heat immediately followed, soon replaced by a feeling of relief and the disappearance of all irritability. At the end of three minutes the "stuffiness" had completely disappeared, and did not reappear until about three-quarters of an hour later. A renewal of the application was followed by the same results, while, after a third, the distention and consequent stenosis did not recur.

Although the attack was not severe enough to present much resistance to the action of the drug, it was sufficiently so to indicate a positive power to overcome the paralyzing action of the peripheral irritation. I have not the least doubt, however, that in a severe case local applications of a four per cent. solution of hydrochlorate of cocaine to the membrane, and quinine internally to antagonize the systemic disturbance, would afford a more rapid and effective result than any treatment now at our disposal.

In simple chronic catarrh, the momentary state of the vascular supply during an acute attack has become reduced to permanency, the repeated distentions to which the vessels have been subjected have finally caused these to remain distended in irregular fusiform dilatations, and their walls have become softened and more permeable. The layer of venous sinuses or

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[1] *Vide* La flamme à petites dimensions," par Louis François Gondret, Paris, 1847.

"turbinate corpora cavernosa," although but slightly influenced organically, are more susceptible to irritation, and the least exposure causes their erection. As a result, the already decreased lumen of the cavities becomes more limited, until, in some cases, absolute stenosis exists at each exacerbation.

It is in this class of cases that the constringing action of the drug principally shows itself. In seven cases in which I have used it, its power was as manifest as in acute coryza. Notwithstanding the paretic state of the vaso-motors, made evident by the marked vascularity in the non-irritated state, its action, although not quite as rapid, was as marked. So empty had the parts become of all fluids that the density of the membrane was such that firm pressure with a probe did not produce the least depression. In order to bring about this result, the venous sinuses had to be emptied of their venous blood, the vessels of their contents, while what infiltration was present had to be suddenly absorbed. The state of the membrane after the application indicating that these conditions had been fulfilled, we cannot but conclude that each abnormal condition forming the pathological state had been antagonized, and that the drug presents the necessary qualities for curative treatment—*i. e.*, stimulation of vaso-motors, relief of vascular distention, absorption of infiltration and of the new connective-tissue elements, which frequently transform the simple chronic state into that accompanied by hypertrophy.

In order to test practically the truth of this hypothesis more time is naturally required than a period of three weeks, since which the experiments were begun. I can only as yet report less tendency to frequent exacerbation and great satisfaction on the part of the patients to be able at any time to arrest the partial or complete stenosis, which most frequently affects them during the night and interferes with sleep.

In the hypertrophic variety we have to contend with firmly organized adventitious connective tissue, besides the conditions existing in the simple chronic state. New vessels have been formed, the epithelial layer has become thickened; in short, we have a condition which surgical interference or mechanical action only can modify. A number of authors advise pressure by means of hard rubber or metallic bougies for the reduction of the redundant membrane by absorption, and report excellent results. Although I do not make use of this method, considering it too painful and as a slow and tedious way of obtaining results which we can reach by much simpler and more rapid means, I avail myself of the fact it seems to prove—*i. e.*, that this firmly organized adventitious connective tissue *can* be absorbed, along with the other adventitious elements. Accepting this fact, and turning our attention to the contracting power of the hydrochlorate of cocaine, it seems but rational that that contracting power is the very *desideratum* in the treatment of this hypertrophic variety by induced absorption, its value being much enhanced by the painlessness of its application. Here, again, time is necessary to turn a pure hypothesis into a certainty, but the prize is sufficiently valuable to merit serious trial.

In hay fever, I doubt whether it will have any value other than a momentary abatement of the hyperæsthetic condition of the nasal membrane, and to diminish the intensity of the nasal symptoms. As a preventive, it could only be effective by applying the solution every half hour during the usual six or eight weeks of exposure, a rather unpleasant task and one calculated to become as tedious to the patient as the disease itself.

As an anæsthetic for nasal operations, my experiments so far have not realized my anticipations. Of the fourteen cases in which they were performed, two only showed marked effect. I first tried the two per cent. solution, then the four per cent., and at last the ten per cent., and, to my surprise, noticed no difference in the actions of the two latter. The three solutions had been obtained at a most reliable drugstore, that of Mr. W. Llewellyn; they were tried and found "excellent" by my colleague of the eye clinic at the Jefferson College Hospital, and were used by me carefully and repeatedly at intervals of five minutes, after drying the membrane with absorbent cotton. In applications of glacial acetic acid, the short but burning sensation was slightly modified, while in galvano-cauterizations the slight pain accompanying flat applications was somewhat diminished and shortened. In all of these cases the contact of the probe was not felt immediately before the applications and the pain when the galvano-cautery was used only became evident when the instrument had penetrated the superficial layer. However, the pain usually accompanying these applications is so slight that were the hydrochlorate of cocaine as effective in the anterior nasal fossæ as in the eye, or in other parts of the respiratory tract, its use would doubtlessly be limited.

1630 Chestnut St.

ON THE METHODS OF TESTING FOR ALBUMEN IN URINE.

By BERNARD PERSH, M.D.,
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In experimenting with the numerous tests for albumen, and considering their relative values, one cannot help thinking that the old tests, nitric acid and heat, possess many advantages.

Heat is a test which will always be used in proving the presence of albumen; and, no matter what reagent is applied, heating of an albuminous urine will be necessary to make the reaction more prominent, to obtain positive results, and to verify the numerous other tests now in vogue.

In applying heat, care must be taken to render the urine slightly acid, by the addition of a drop of acetic acid, or a concentrated solution of citric acid, to half an ounce of urine of normal acidity; otherwise, derived albumens may be present which are not coagulated by heat. Good results are obtained by placing two inches of urine into a test-tube, of medium size, and carefully heating the upper third of the urine to the boiling-point. If albumen is present, the upper portion will show coagulated albumen or opalescence, while the lower part remains clear, thus forming a distinct contrast, and showing the presence of extremely small quantities of albumen.

Upon boiling neutral, alkaline, or faintly acid urine, earthy phosphates are precipitated at times, due to the fact that carbonic acid, holding the phosphates in solution, is set free upon the application of heat. The sediment thus formed may be easily distinguished from albumen by being readily dissolved by the addition of a drop or two of acetic acid. If the urine has the proper acid reaction, as indicated above, phosphates will not be precipitated upon boiling. In working with slightly acid, but albuminous urine, it may, however, happen that the urine, upon applying heat, is rendered neutral or faintly alkaline by the precipitation of albumen, and this must be prevented by the addition of more acid, otherwise the albumen may become transformed into alkali-albumen, or earthy phosphates may be precipitated, upon the application of heat.

By suspending a chemical thermometer in a test-tube, containing albuminous urine and applying heat, it will be seen that the fluid usually becomes opalescent at a temperature of about 158°, and that the coagulated albumen assumes a flaky appearance upon raising the temperature. If only small quantities of albumen are present, turbidity may not take place until the temperature is raised to the boiling-point.

Brunton and Power (*St. Bartholomew's Hospital Reports*, 1877) took the coagulation-point as a basis for distinguishing the different forms of albumen in urine. They found that in the same patient, as well as in different cases of albuminuria, the coagulation-point varied between 144° and 180°. Numerous experiments proved that food generally lowers the coagulation-point; due, perhaps, to the fact that the first products of digestion coagulate at a lower temperature than the later products, which have a higher coagulation-point than serum-albumen, while the final products of digestion are not coagulated by heat.

The coagulation-point of albumen is also influenced by the presence of paraglobulin, sodium chloride, and other salts. It will be found that if globulin and salts are present in large quantities in albuminous urine, the coagulation-point is raised to 170° or more, while in a one per cent. solution of serum-albumen, washed almost free from salts, coagulation takes place at a temperature of 125°.

The two bodies principally to be looked for in albuminous urine are serum-albumen and paraglobulin. The experiments of Lehmann, of Copenhagen, as well as Edlefsen and Senator, prove that globulin is present in all specimens of albuminous urine; and a case of globulinuria, in acute nephritis, was reported in the *Lancet* for December, 1883, in which globulin was found in the urine, but no serum-albumen. Paraglobulin is held in solution in the urine by small quantities of salts, and, to prove its presence, the urine is largely diluted, and a stream of carbonic acid is passed through it. If paraglobulin is present, the urine becomes cloudy, but finally the globulin settles at the bottom. The supernatant fluid may then be tested for serum-albumen. Very dilute acetic acid or alkalies will also precipitate paraglobulin; but, if added in excess, acid or alkali-albumen is formed. A simpler test is that reported by Dr. William Roberts, at the meeting of the Glasgow Pathological and Clinical Society, on February 12, 1884. He states that when albuminous urine is added, drop by drop, to a large quantity of water, a milky trail, following each drop, is noticed in many cases, until the whole fluid becomes opalescent. In repeating this experiment with urine, in which the presence of paraglobulin had been shown by the carbonic acid test, the same results were obtained, and the turbidity disappeared upon shaking the fluid with air, by introducing a current of oxygen, or by adding acetic acid or an alkali.

I found that this test becomes more distinct by adding the urine, drop by drop, to water saturated with carbonic acid, or by diluting one part of the suspected fluid with ten parts of carbonic acid water.

If the observations of Senator, confirmed by the experiments of Bartels and Edlefsen, are correct, that paraglobulin is present in larger amounts in the urine of patients suffering from amyloid disease of the kidneys than in other albuminous urines, then the distinct tests for this proteid will necessarily be of great value, and more so the carbonic acid test, since it offers means for quantitative analysis and allows the testing of the same specimen for serum-albumen.

Of what value the termination of the different temperatures at which coagulation takes place in albuminous urines may be in the diagnosis of disease, is a question which deserves close consideration; but it is evident that the coagulation-points are affected by numerous conditions.

Nitric acid is applied by pouring the acid under the urine by means of a pipette, by inclining the test-tube containing the urine and letting the acid flow slowly along the side of the glass to the bottom, or by placing the acid into a test-tube and carefully overlaying it with urine. If albumen is present, there will be formed at the point where the acid and urine meet, a distinct, sharply defined zone of coagulated albumen. This formation may also be due to resins and urates; but the reaction produced by these agents is not as well marked as that due to albumen. The cloudiness caused by resins, usually copaiba or cubebs, disappears upon boiling or the addition of a few drops of alcohol, and the distinct odor of these drugs is easily detected in the urine. The turbidity caused by the urates disappears upon heating, and may be further distinguished from that due to albumen by the fact that the zone caused by the proteid forms at the place where the acid and urine meet, and extends upwards; while the urates form above the acid, and extend downwards. By adding nitric acid to urine rich in urea, nitrate of urea forms at times. It crystallizes in six-sided rhombic tables, and is insoluble in nitric acid, and may thus be readily distinguished from albumen.

Some care is required in applying the nitric acid test, since coagulation of albumen will not take place if the urine is rendered only faintly acid by the addition of a few drops of nitric acid; while, if the acid is poured into the urine, the serum-albumen is converted into acid-albumen, which is soluble in dilute acids, and is not coagulated by heat. In working with urines containing very small quantities of albumen, a minute or two will elapse at times before the zone is developed; while, if too long a time is allowed to pass before the result is noticed, the coagulated albumen may have become transformed into soluble acid-albumen, and no reaction will be visible. If much coloring matter is present, a brown ring will form at the point of contact, which will interfere in some measure with the nicety of the test. But by applying Heller's test, or any of its modifications, with a little care, good and positive results are always obtained, and one part of albumen in six thousand parts of urine is readily detected. To obtain such results, it is, of course, necessary that the urine should be perfectly clear, and it should, therefore, be filtered; or, if this is not sufficient, rendered transparent by adding liquor potassæ, boiling and refiltering.

Potassium ferrocyanide and acetic acid is one of the older tests for albumen, and it is frequently used in quantitative and qualitative analysis. For qualitative analysis, a test-solution is prepared, by dissolving one part of the salt in three parts of tepid water, allowing the solution to cool and separating the surplus salt by filtration. A solution of a pale yellow color, and of a specific gravity higher than that of urine, is thus obtained. The test is applied by rendering the suspected fluid strongly acid with acetic acid, and adding a small quantity of the ferrocyanide afterwards. If albumen is present in the proportion of one part, or more, of albumen to ten thousand parts of urine, a turbidity will show itself; or, if applied by the contact method, a distinct zone of hydroferrocyanide of albumen will be formed. This formation is again dissolved if the albuminous fluid is present in excess.

Dr. T. W. Pavy[1] substituted citric acid for acetic acid, and has prepared test-pellets, containing sodium ferrocyanide and citric acid. Prepared in this form, the reagent recommends itself for bedside analysis; but I have had no experience with pellets of this combination, and it appears to me that they are rather difficult to prepare, and, owing to the efflorescence of the sodium salt, difficult to preserve. These objections may, however, have been overcome, and they may be only imaginary on my part, at least Dr. Pavy states that these pellets will keep for an indefinite time.

Dr. G. Oliver[2] has prepared a test-paper, by saturating bibulous paper with a solution of potassium ferrocyanide. I have made these papers by saturating boiling water with the salt, placing the paper in the hot solution, and quickly drying it after saturation. To render the urine acid, Dr. Oliver uses a paper containing citric acid. In preparing the citric acid paper, good results were obtained by dissolving six drachms of citric acid in an ounce of water, and saturating the paper with this solution. Concentrated solution of citric acid renders the paper stiff and liable to break while being placed in the test-tube.

There is no doubt that citric acid offers a convenient form for bedside urinary tests, but it presents the objection that it precipitates mucin. In using citric acid, it is, therefore, advisable to add the acid first, and wait a few minutes before applying the reagent. If a turbidity occurs, and it is due to urates or oleo-resins, it will disappear upon heating or boiling; but if caused by mucin, the precipitate will remain. With these exceptions, the results obtained with potassium ferrocyanide are positive; and as a clean, easily prepared, and tolerably sensitive test for albumen, it commends itself.

The *brine test* consists of a concentrated solution of sodium chlorate, acidulated with muriatic acid. It was introduced as a test for albuminous urine by Dr. William Roberts,[1] and is prepared by adding to seven ounces of sodium chloride sixteen ounces of water, separating the surplus salt by filtration, and adding to a pint of the filtrate one ounce of dilute hydrochloric acid. The reaction produced by this test depends upon the fact that, if sodium chloride, in excess, is added to an acid solution of acid-albumen, the acid-albumen is precipitated. It is, therefore, necessary that the acidulated brine should be in excess, and to obtain this result, it should be applied in the same manner as the nitric acid test. The brine test is not as liable as nitric acid to precipitate the urates, and it does not act upon the coloring matter of urine; but it produces a cloudiness with peptones and oleo-resins. These precipitates disappear upon the application of heat. Owing to its non-corrosive action, it has been recommended as a bedside urinary test, either in the fluid state or in the form of a powder, in conjunction with citric acid. In both these forms it is easily carried and readily applied; but the large quantity of the reagent required to produce reaction, renders some of the other tests more suitable for use in the sick-room. The brine solution is as delicate a test as nitric acid, and it offers the advantage that, after adding the sodium chloride mixture to urine, the same specimen may be examined for sugar.

Picric acid, as a test for albumen, has found a strong advocate in Dr. George Johnson. He recommends it as a clean and delicate test, and he has lately published a little book[2] bearing upon the subject.

Picric acid is not very soluble in water, requiring about ninety parts of this solvent, of ordinary temperature, for its solution. A concentrated aqueous solution is prepared by dissolving six grains of picric acid in an ounce of boiling water, and separating the surplus acid, which crystallizes out upon cooling, by filtration. Applied in this form, picric acid gives most delicate results as a test for albuminous urine; but its low specific gravity (1003), as well as its yellow color, resembling that of some urines, requires some nicety in its application. For the detection of small quantities of albumen, three inches of urine are placed in a test-tube, held in an inclined position, and an inch of the aqueous solution, or more, is gently poured on top of the urine. If albumen is contained in the urine, it will present a turbid appearance as far as the acid extends, while the lower part, as well as that part of the acid which is not combined with the urine, will be perfectly transparent, thus bringing the smallest quantities of albumen in view. The opalescence may be made to appear more prominent by heating the fluid, or by allowing the picrate of albumen to settle, when a distinct zone will be formed between the acidulated urine and the urine.

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[1] British Medical Journal, February 17, 1883.

[2] On Bedside Urine Testing, including Quantitative Albumen and Sugar. By George Oliver, M.D. London, 1884.

[1] Lancet, October 14, 1882.

[2] On the Various Modes of Testing for Albumen and Sugar in the Urine. By G. Johnson, M.D., 1884.

In using this test, it is necessary that the acid be added in excess, since picrate of albumen is dissolved by an excess of albumen, and that the suspected fluid be rendered distinctly acid. In most specimens of urine, the picric acid is sufficient to produce the required acidity; but if the urine is highly alkaline, the addition of an acid becomes necessary. I prefer for this purpose citric acid, since it increases the intensity of the reaction and prevents the picrate from being dissolved by an excess of albuminous fluid. In fact, I believe that much better results are obtained by using a solution containing picric and citric acids. By dissolving an ounce and a half of citric acid and sixteen grains of picric acid in two ounces of boiling water, and filtering after cooling, a solution of a decidedly acid reaction and high specific gravity is obtained, which, in the hands of the busy practitioner, may prove of value, since it is much more easily applied, and gives more distinct results than the simple aqueous solution of picric acid. Another way of applying the acid, is to reduce it to a fine powder, and add a few particles of it to the urine. As the acid sinks, a distinct cloud surrounds it and marks its course, if albumen is present. Dr. Oliver has prepared test-papers of this reagent by saturating strips of bibulous paper in a concentrated solution of picric acid, and in this form a convenient bedside test is furnished. I have prepared these papers by saturating bibulous paper in a concentrated alcoholic solution of picric acid; but, since the quantity of the reagent absorbed by the paper is small, it is necessary to acidulate the urine, and for this purpose a citric acid paper should be used.

As to the value of this test, there can be no doubt that, with a little care, the presence of one part of albumen in twenty thousand parts of urine can be proved. But picric acid also forms precipitates with peptones, urates, mucin, and the alkaloids; and, for some of the latter, it is even a more sensitive test than for albumen. I have frequently been able to prove the presence of quinine in the urine a few hours after giving three grains of the sulphate; and in the urine of a patient who took fifteen grains of quinine, I was still able to produce a distinct zone of the picrate of quinia two days after taking the medicine. In aqueous solutions of sulphate of quinia, one part in forty-five thousand; strychnine, one part in six thousand; sulphate of atropia, one part in six hundred; sulphate of morphia, one part in two hundred, the alkaloids are readily indicated with the standard test-solution of picric acid. These figures prove, however, that, with the exception of quinine, the alkaloids, or their salts, are not given in sufficiently large quantities to indicate their presence in the urine by the picric acid test. The results obtained with ergot were, however, somewhat different, and four drops of the fluid extract, added to one ounce of water, or one grain of ergotin dissolved in five ounces of water, gave a distinct turbidity with picric acid. The urine of a patient, who had taken two one drachm doses of fluid extract of ergot within ten minutes, showed a distinct turbibity with picric acid five hours after taking the medicine. The urine of this patient failed to give a reaction with picric acid previous to taking the medicine; and the precipitate noticed after its administration disappeared upon the addition of an acid, or the application of heat, and was believed to be due to the presence of the alkaloids of ergotin. This experiment was repeated, in different individuals, with corresponding results.

Picric acid is also a very sensitive test for peptones, and Dr. Johnson proposes to use the acid as a means of distinguishing them from albumen. But we possess a much more positive test in Fehling's solution, and still better results may be obtained, in testing for peptones, by adding liquor potassæ and a minute quantity of cupric sulphate to the suspected fluid, when, if peptones are present, a red color will show itself.

Dr. Randolph recently recommended Millon's reagent and iodide of potassium as a most sensitive test for peptones. He adds to five cc. of the suspected fluid, which must be cold and of acid or neutral reaction, two drops of a concentrated solution of potassium iodide and four or five drops of Millon's reagent. If peptones are present, a yellow precipitate appears; if they are absent, a red sediment is formed.

I have mentioned these tests for peptones, since the presence of these proteids is constantly indicated by the newer tests for albumen, and since they may be of value in the diagnosis of cases of peptonuria, which is found to be constantly present in chronic purulent diseases, cancer, and the later stages of pneumonia.

The precipitates caused by picric acid and alkaloids, peptones, and urates, readily disappear upon the application of heat at different temperatures, and below the boiling-point, or upon adding alcohol or a few drops of nitric acid. If the turbidity is due to alkaloids, it will, in many instances, dissolve upon adding a concentrated solution of citric acid, but if the precipitation is caused by albumen, the intensity of the reaction will be increased.

The cloudiness caused by the action of picric acid in urine containing mucin does, however, not disappear upon the application of heat, or the addition of alcohol, or nitric acid, and doubts may therefore arise, whether the precipitate is due to albumen or mucin. Fehling's solution offers, however, ready means of distinguishing between these two bodies, since it produces a violet color with the proteid, but gives no reaction with mucin. Mucus may be found in almost all urines, but its presence in small quantities is not readily indicated by picric acid, and it is by no means a sensitive test for mucin.

The *potassio-mercuric iodide* test was recommended by M. Charles Tanret, and the formula for its preparation seems to be based upon the atomic equivalents of the bichloride and iodide. It is conveniently prepared by dissolving 1.35 gramme of mercuric chloride in 23 cc. of water and adding this, drop by drop, to a solution of 3.32 grammes of potassium iodide in 15 cc. of water, constantly stirring while mixing. To this solution of potassio-mercuric iodide 20 cc. of acetic acid and sufficient water to make the whole measure 100 cc. are added. The result is a fluid of light greenish color with a specific gravity of 1042. Good results may, however, be obtained in testing for albumen by using the test solution so much employed as a reagent for alkaloids, and which is prepared by dissolving sixteen grains of mercuric chloride and one drachm of potassium iodide in four ounces of water. This solution may be rendered acid by substituting six drachms of acetic acid for an equal amount of water, or by adding six drachms of citric acid.

The high specific gravity of Tanret's test, as well as its color, render it much more easy of application as a test for albuminous urine than picric acid. By employing this test after Heller's method, most perfect results are obtained, and a turbidity will still be observed at the point of contact in urine containing albumen in the proportion of one part in 20,000. But mercuric iodide also gives reactions with peptones and alkaloids, and for the latter it is even a more sensitive test than picric acid. Aqueous solution of strychnine and sulphate of quinine, one part in 100,000, sulphate of atropia, one part in 20,000, sulphate of morphia, one part in 5000, produce distinct reaction with Tanret's solution; and this test is as sensitive for proving the presence of the alkaloids of ergotin, or their products, as picric acid. The turbidity due to the presence of alkaloids or peptones disappears upon the application of heat, and it is, therefore, readily distinguished from the precipitation caused by albumen.

In the preparation of test-papers containing this reagent, I have used a solution of thirty-two grains of mercuric chloride and eighty grains of potassium iodide in an ounce and a half of water. In applying the test-paper, it must not be forgotten to have the suspected fluid decidedly acid, and for this purpose a citric acid paper may be added. But since the test-papers contain only a small quantity of the reagent, care must be taken not to add too much of the suspected fluid, otherwise the precipitate may become redissolved by an excess of albuminous urine.

Tungstate of sodium was proposed by Dr. Oliver as a test for albuminous urine, and a test solution containing this reagent was prepared by him by mixing equal parts of a concentrated solution of citric acid and sodium tungstate. A convenient way of making the test solution, based on Dr. Oliver's directions, is to dissolve ten drachms of citric acid and a drachm and a half of sodium tungstate in two ounces of water. After filtering the solution a perfectly clear, colorless liquid of high specific gravity is obtained, which, if applied after Heller's method, will show the presence of albumen in the proportion of one part in 20,000. Its high specific gravity, as well as its cleanliness, renders this solution particularly well adapted as a test for albuminous urines; and if it was more generally used I am convinced that it would be preferred to either picric acid or mercuric iodide.

In preparing the reagent it will frequently be found that, upon mixing the ingredients, effervescence takes place, due to the presence of sodium carbonate, which enters in the manufacture of the tungstate. Even comparatively pure samples of sodium tungstate contain sodium carbonate, which, by the action of citric acid, becomes changed into citrate, but its presence does not interfere with the test.

I believe that this test is merely a modification of Scheibler's phospho-tungstate of sodium test, which is prepared by adding phosphoric acid to tungstate of sodium. It is one of the most delicate tests for alkaloids, and, like most of the reagents of this class, indicates albumen in extremely small quantities. Like Scheibler's reagent, the solution of citric acid and sodium tungstate produces a precipitate with alkaloids, although the reaction is perhaps not as marked as that produced by picric acid and mercuric iodide. The precipitate thus formed disappears upon the application of heat or the addition of a few drops of alcohol. Only a slight precipitation is produced by adding this reagent to solutions containing peptones, and the turbidity disappears quickly upon the application of heat, but, similar to the precipitates produced by the presence of alkaloids, reappears upon cooling. I am doubtful whether peptones are ever contained in sufficient quantities in the urine to be indicated by sodium tungstate, since with concentrated solutions of peptones, prepared by artificial digestion, only a slight turbidity is obtained with this test, while, after separating the precipitate thus formed by filtration, and adding picric acid or mercuric iodide to the filtrate, a copious precipitate is observed.

A solution for the preparation of test-papers may be prepared by dissolving two drachms of sodium tungstate in an ounce of water and adding sufficient citric acid to render this fluid distinctly acid. Papers saturated in such a solution, and dried after saturation, give good results, if used in conjunction with citric acid paper, but in most urines more than one citric acid paper will be required with this reagent to produce the desired acidity, while with picric acid and mercuric iodide one paper usually proves sufficient.

In using this test it is necessary that the urine should be in excess, since the albuminous precipitate becomes redissolved by an excess of the reagent, but this can be prevented by employing the contact method.

I have of late employed these tests in examining the urine of patients sick with diphtheria, and I was able to prove the presence of albumen with picric acid, sodium tungstate, and mercuric iodide for a day or two before any reactions with the other reagents were shown. And for weeks, after heat and nitric acid had failed to give indications of albuminuria, the other tests proved the presence of the proteid and dictated caution in the care of these cases, even after they had apparently recovered, and were, to all appearances, in the enjoyment of good health. Whether the results obtained by the more sensitive tests for albumen indicate a pathological condition, is a question which only time can decide. It is true that the presence of albumen may be proved in some cases in which there is not the slightest indication of disease, and in which we are unable to attribute the presence of albuminuria to diet, exposure, or some local cause. But by watching such cases for years, important results may be obtained, and the first symptoms of serious complications may possibly be traced back to the time when minute quantities of albumen first showed themselves in the urine.

The Frankford Arsenal, Pa.

SUBPLEURAL ECCHYMOSIS OF THE PERICARDIUM, PRODUCED MECHANICALLY AS A COMPLICATION OF RICKETS.

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Subpleural ecchymosis of the pericardium, except in connection with the same condition of the pulmonary pleura, has not been studied outside of medico-legal science. Its chief interest in this department of medicine, resides in its occurrence in death from asphyxia. The hemorrhages are so minute as commonly to be classed with petechiæ. The subject of this article is distinct from the above, both in the manner of its causation and the extent of the blood effusion.

A search through works on pathological anatomy, and through treatises, essays, and observations on rickets, has been rewarded with but little success, and only in a single instance has a case been recorded in which a somewhat similar condition was found.[1]

As in the white patches on the ventricular pericardium in the same disease, the lesion under consideration possesses no clinical interest; but the rarity of the occurrence, to judge from the silence of writers, may give it sufficient importance to make it worthy of attention.

A rachitic colored female child, aged two and one-half years, died from asphyxia, the result of a catarrhal pneumonia, involving the entire left and the anterior lower half of the right lung. The body was examined forty-eight hours after death. There were no evidences of pleural inflammation. There was hypertrophy of the right ventricle, and the pericardial sac contained half an ounce of clear reddish fluid. The left lung was solidified and small; the right, in its unaffected portion, in a state of compensatory emphysema. The visceral and parietal layers of the pericardium presented their usual appearance. Upon the subpleural surface of this structure were three ecchymotic patches, each with a dark centre and red circumference. They were in close apposition with the enlarged costo-chondral articulations of the third, fourth, and fifth ribs on the left side. The inferior spot, opposite the ventricular apex, was the largest, with a long diameter of half an inch. Its slightly greatest length was vertical. The superior one, corresponding to the auriculo-ventricular septum, was the next in size, and the middle one, situated on a line from right to left and between the other two, was the smallest. On cross-section they showed a thickened and elevated area.

It seems evident that these appearances were produced by the heart's impulse against the projecting nodes of the deformed thorax; that they existed but a limited time, and that they were probably caused by the irregular and forcible action of the heart in the long death struggle of slow suffocation.

To account for the difference in size of the spots it is necessary to consider the physiological action of the cardiac muscle.

The apex does not descend, but the forcible impulse and its quarter rotation from left to right are sufficient to produce a greater amount of *bruising*, may we say, than any other part could do.

The ventricular base necessarily descends the most; and in assuming a circular form in systole, it is brought much closer to the chest wall than whilst in its oval diastolic shape, with its long axis transverse.

At the centre of the ventricle, the factor of downward displacement and contraction are of less effect, and hence the middle ecchymosis was the smallest of the three.

In three cats, in which the ribs were cut through, and wooden pegs inserted with one of their ends resting on the left ventricle, these ecchymoses did not appear. The animals were killed in from one to three days after operating.

Therefore, whilst allowing the possibility of accidents in manipulation, it still seems that obstructive lung disease and a thickened heart muscle are requisites for the production of such hemorrhagic spots.

MEDICAL PROGRESS.

Peptonuria.—Among those observers who have closely studied the subject of peptonuria, M. **Grocco Pietro** stands conspicuous. The conclusions at which this physician has arrived deserve considerable attention. Peptonuria is said to be a sign of disease, and to have no clinical relationship with albuminuria. It may be a symptom of general or local, infective or non-infective disease. Malarial fevers, typhoid fever, scurvy, purpura hæmorrhagica, septicæmia, and acute phosphorus poisoning may be attended with peptonuria. Local morbid processes which produce this sign are nearly always inflammatory affections tending to the formation of pus. Some cases of rapidly increasing morbid growths are accompanied by this symptom. When a local disease is associated with peptonuria, it is considered likely that the peptones are formed at the seat of mischief, and that they appear in the urine after absorption into the blood. In general diseases, the genesis of peptonuria is still unknown. It is possible that peptonuria may decide between the presence of a simple and purulent inflammation. Peptonuria is frequent at the period of resolution of cases of lobar pneumonia; it may be observed during the period of gray hepatization.—*Lancet*, Nov. 1, 1884.

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[1] Dr. H. Rehn, of Frankfort, reports in the *Central-Zeitung fur Kinderkrankheiten*, No. 15, Erster Jahrgang, p. 227, an autopsy on a child two years of age, which had had rickets. There existed an extrapericardial adhesion. The heart lay almost in complete apposition with the thoracic wall, which was due to the separation of the lung by the inward projection of the beaded portion of the ribs. The parietal pericardium in the lower third was united to the costal pleura corresponding to the fifth costo-chondral articulation by a netlike adhesion, two cm. in length, and one in breadth.

THE MICROCOCCI OF PNEUMONIA IN THE BRONCHO-PNEUMONIA OF MEASLES.—DR. GIACOMO LUMBROSA has recently made a communication to the Académie de Médecine. The presence of microörganisms in the pneumonic lung is now a well-demonstrated fact; the part which they play in the causation of the disease being as yet unsettled. These microbes have been recently studied by Dr. Afannassier, of St. Petersburg, in Prof. Cornil's laboratory. Following the advice of Prof. Cornil, Dr. Lumbrosa examined the lungs of a patient, dead of broncho-pneumonia of measles, with reference to the micrococci of pneumonia. In all the microscopic preparations he found: 1. Round micrococci, some small, others large. 2. Ovoid micrococci (of Friedländer and Salamon), of variable dimensions, often joined, two together, but rarely forming chains. His observations lead him to presume that the microbes of measles produce a terrain favorable for the development of the micrococci of pneumonia.—*Progrès Médical*, October 11, 1884.

SPLENECTOMY.—DR. ALESSIO GIOVANNI performed this operation, on October 14, on a woman, forty years of age, affected with pernicious anæmia and chronic hypertrophy of the spleen. The patient was doing well seventy-two hours after the operation.—*Gazz. degli Ospitali*, October 26, 1884.

THE CHEMICAL NATURE AND PHYSIOLOGICAL ACTION OF COBRA POISON.—DR. NORRIS WOLFENDEN thus sums up a paper on this subject:

There are in cobra poison two distinct venoms: 1. Cobra globulin-venom; 2. Cobra albumen-venom. They exist probably in different proportions in different secretions, but these two are always present. What other albumens may be present are not of the same importance as these two.

The globulin-venom is destroyed by high temperatures, but the albumen-venom is not so affected.

The globulin-venom poisons the respiratory centre, producing no paralysis of muscles; the albumen-venom does not affect the respiratory centre, but produces marked and progressive motor paralysis.

I may here mention that from the result of some investigations I have for some time been making upon the blood of many animals, I cannot consent to the generally received opinion that cobra venom exerts no influence upon the blood. My investigations, which will shortly be published, have convinced me that cobra venom decolorizes a large proportion of the disks, by driving out the hemoglobin, and breaks up a large number of the white disks completely, filling the plasma with minute granules. The bacterial forms which are present in such large numbers, in cobra venom, I do not think have anything to do with the activity of the venom. When recovery takes place from poisoning with a dose of the poison insufficient to kill, it is not improbable that a condition of blood-poisoning may supervene secondarily.

I may add, in conclusion, that the animals experimented upon were in all cases white rats, and the injection was made always under the skin of the back, in the dorsal region.

The globulin-venom is slower in its action than the serum-albumen, and a longer period often elapses after the injection before symptoms supervene, or terminate life. The globulin is very deadly, and when once the symptoms have supervened, asphyxia rapidly ends the existence of the animal.—*Indian Medical Gazette*, September, 1884.

THREE CASES OF CÆSAREAN SECTION.—SURGEON-MAJOR ARNOTT, of the Bombay Medical Department, reports three cases of Cæsarean section. The result of the three cases was that three children were saved, one mother lived ten days, another three days, and the third thirty-six hours.—*Edinb. Med. Journ.*, Dec. 1884.

LIGATURE OF THE RIGHT COMMON CAROTID AND INTERNAL JUGULAR VEIN.—At the October meeting of the Northwest Provinces and Oudh Branch of the British Medical Association, SURGEON SHIRLEY DEAKIN, I.M.D., showed an Eurasian male patient, aged forty-two, on whom he had ligatured with carbolized gut the right common carotid and internal jugular vein two months before. The operations were performed at the time of the removal of a large, foul, fungating epithelial mass, which had sprung from some cervical glands, in which the disease had recurred after the removal of the right half of the tongue at a hospital in Calcutta, where a second operation was attempted and abandoned. One ligature was applied to the artery, two to the vein; and as much as possible of the diseased tissue, which extended deeply beneath the angle of the jaw, was scooped out previous to the application of zinc chloride paste with morphia. Zinc paste was applied at intervals, five times in all, the application being followed by pain on swallowing, so severe that gastrostomy was contemplated. Poultices and iodoform ointment were applied in the intervals between the applications. Subsequently dry tannic acid was dusted on the small remaining mass, a saturated solution of the acid in glycerine with carbolic acid being also applied. The original opening had greatly contracted; the incision made for the ligation had completely healed, and the patient was free from pain. Though his appetite was poor, he could eat food and swallow it; he was able to be up and to walk about the garden. A complete cure could hardly be hoped for, yet the relief and comparative comfort experienced by the patient showed how much might be done in apparently hopeless cases to mitigate pain and distress.—*Lancet*, Nov. 15, 1884.

CURABILITY OF SYPHILITIC ARTERITIS.—M. LEUDET has recently related the case of a man, the subject of syphilitic infection, who was noticed to have undergone a decided alteration in mental behavior, to have lost memory, and to have suffered from frontal headache. Whilst these symptoms prevailed, the superficial branch of the left temporal artery was seen to have become much thickened, so as to feel like a hard cord, and twice its normal diameter. Seven months later the corresponding vessel on the right side became affected in the same way, and coincidently the cerebral symptoms increased in intensity. The administration of antisyphilitic treatment was followed by the return of the affected arteries to their natural state, and by the recovery of the patient.—*Lancet*, November 1, 1884.

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CHOLECYSTOTOMY AND CHOLECYSTECTOMY.

DURING the present year three important contributions to the operations of incising and excising the gall-bladder have appeared in the *British Medical Journal* for May 3d, the *Deutsche Zeitschrift für Chirurgie*, Bd. xxi., Hefte 1 and 2, and the *American Journal of the Medical Sciences* for October, from the pens, respectively, of LAWSON TAIT, WITZEL, and MUSSER and KEEN. In addition to the cases contained in these papers, COURVOISIER, of Basle, has recorded in the *Correspondenzblatt für Schweizer Aerzte*, No. 15, a successful cholecystotomy and a recovery after cholecystectomy; and we have to add to the cases of both procedures, tabulated by Musser and Keen, cholecystotomies from the practice of Trendelenburg, reported by Witzel, of König, recorded in the *Verhandlungen der Deutschen Gesellschaft für Chirurgie* for 1882, of Boeckel, referred to in the *Gazette Médicale de Strasbourg*, No. 8, 1884, and of Courvoisier, as above indicated. In addition to the case of extirpation of the gall-bladder by Langenbuch, which constitutes No. 12 of the table of Musser and Keen, that surgeon has had two other successful operations, a record of which may be found in the *Verhandlungen der Deutschen Gesellschaft für Chirurgie* for 1883; while, as we have just pointed out, Courvoisier's patient recovered.

From these data it will be our object to present our readers with a summary of the present state of our knowledge of the most important points concerned in the two operations. In order that there may be no misunderstanding, we have to state that the cases of Hughes, Brown, Blodgett, and Keen, in which the abdominal cavity, but not the gall-bladder, was opened, are excluded.

1. Cholecystotomy was first practised by Dr. J. B. Bobbs, of Indianapolis, on June 15, 1867. Fifty small calculi were removed from the bladder, the incision in it was closed by one point of suture, and the woman recovered. The operation has been practised at least 27 times: by Tait in 13 cases, by Keen in 2 cases, and by Bobbs, Sims, Ransohoff, Von Winiwarter, Gardner, Eddowes, Savage, Courvoisier, Trendelenburg, König, Boeckel, and a surgeon referred to by Tait, each in 1 case. Of the 27, 21 recovered and 6 died, the fatal result in 3 having been due to collapse and hemorrhage, in 2 to collapse alone, and in 1 to a probable escape of bile into the peritoneal cavity. In twenty of the operations the edges of the opening in the gall-bladder were at once stitched to that in the abdominal wall, thereby forming a temporary fistule. In the case of Sims, a portion of the viscus was extirpated previous to sewing it to the superficial wound. In the case of König, the belly was opened, the bladder attached to the abdominal wall by sutures, and not incised until the tenth day. In Kocher's case, adhesions were excited by placing a bit of Lister's gauze in the wound, and the gall-bladder was incised on the seventh day. In three of the remaining exceptional examples the incision was closed by sutures and the organ returned into the abdomen. The case of Bobbs, in which one stitch was used, recovered, as did that of Courvoisier after the continuous suture, while the patient of the surgeon referred to by Tait died from the escape of bile into the peritoneal cavity after the use of the continuous suture. In the seventh exceptional case, Von Winiwarter established a fistule between the gall-bladder and the small intestine. This was effected by uniting them with stitches, suturing the intestine to the abdominal wound, opening the gut on the fifth day, puncturing the opposed surfaces through the incised intestine, and, finally, closing the latter with sutures. Hence, this operation was not an ordinary cholecystotomy, but a cholecystenterostomy.

Several different methods of operating have been adopted. With the view to prevent the escape of bile or mucus into the peritoneal cavity, Kocher excited adhesions between the viscus and abdominal wall before opening the former, by inserting a bit of gauze in the wound, and König stitched the bladder to the belly, the procedure being similar to Howse's operation for gastrostomy. The former method should be rejected, while the latter is scarcely indicated, as peritonitis was not induced in a single one of the twenty cases in which the bladder was accurately sutured to the wound in the abdominal wall before it was opened. During the operation the escape of the contents of the gall-bladder into the peritoneal cavity may be prevented by using Keen's scoop, while the subsequent adhesions which rapidly form obviate secondary dangers of this kind. Hence we conclude that the ordinary procedure is worthy of common acceptance.

In three cases the incision in the gall-bladder was closed with sutures, and the organ returned into the belly. Two recovered, and one died from the escape of bile into the peritoneal cavity. Tait declares that this procedure is dangerous in consequence of the periodical filling and emptying of the bladder, and because if a stone be left in the cystic or common duct, the wound is liable to reopen. The only objection to the ordinary procedure is the formation of a permanent fistule, which happened in at least three instances; but as this is merely a source of inconvenience, we agree with Tait and Keen in rejecting suture of the gall-bladder.

2. Cholecystectomy is said by Tait to have been done 6 times, with 3 deaths, but it is quite certain that all of the operations were not total. Excluding the case of Sims, in which during the operation of cholecystotomy a portion of the bladder was cut off before attaching it to the abdominal incision, and the case of partial extirpation of S. W. Gross, which was merely incident to nephrectomy for carcinoma, we find only 4 recorded cases, 3 from the practice of Langenbuch and 1 from that of Courvoisier. All recovered, so that with this limited experience, the procedure has to be pronounced free from danger. The operation is performed by first dissecting the bladder from its connections with the liver and then tying the cystic duct. Langenbuch's reason for resorting to it is because it removes the cause of the formation of biliary calculi. Should the common duct be patulous, the operation may be done, but if it be obstructed by an unremoved or undiscovered stone, the procedure is not justifiable. Under any circumstances, we are disposed to think with Tait and Keen that, in view of the comparative safety of cholecystotomy, extirpation of the gall-bladder exposes the patient to a needless additional risk, and that it should, therefore, be abandoned.

"TAKING COLD."

IN that admirable address with which Dr. Flint has recently delighted the medical profession, he has fallen foul of the time-honored phrase, "taking cold." He holds that this condition of things does not exist. If we are to be deprived of this favorite and familiar pathogenic factor, what recourse have we? In that doubtful state in which, according to Smollett, the apothecary uses water, the doctor relieves his dilemma, and gives abundant satisfaction by the comprehensive phrase—taking cold.

At this season, more especially, when all the world is "catching cold," it were well to inquire if Prof. Flint's position is a tenable one. Do we "take cold," or "catch cold?" Dr. Flint assumes that the world, and even the more enlightened medical profession, regard cold as a demon, a contagious entity, if not an all-pervading microbe, which forcibly enters our frail bodies, and works some violent mischief.

Surely, it is the common experience of mankind, that, in certain conditions of the system, exposure to cold, or to cold and its ally, dampness, induces a morbid state—a complex of symptoms of various kinds. If practical experience, which Dr. Flint so strongly commends, be our infallible guide, why reject it in this instance, and heed it in all others?

The phrase—catching cold—had its origin in a ruder state of society, and in the infancy of science, when "cold" was the antithesis of "heat," and it has survived the crude notions in which it originated. It is not now a contagious entity, which we "catch" as we do a specific disease, but a phrase to signify the effect of a certain impression, of which the state of being cold is an element. The most favorable condition for this impression is that state of the body induced by confinement in a close, warm, and air-vitiated apartment, the skin being relaxed and perspiring, and the superficial sensory nerves impressible. Under these circumstances, a draught of cold air, directed against certain parts of the body, will excite phenomena which we entitle from long usage—taking cold.

In Blithedale Romance, Miles Coverdale declares, "To own the truth, I was little better than an icicle, and began to be suspicious that I had caught a fearful cold." His suspicions were confirmed, and he thus explains his mishap: "The truth was the hot-house warmth of a town-residence, and the luxurious life in which I had indulged myself, had taken much of the pith out of my physical system; and the wintry blast of the preceding day, together with the general chill of our airy old farm-house, had got fairly into my heart and the marrow of my bones."

No words could more aptly picture the popular conception of what is meant by taking cold, than Hawthorne's description.

There are certain parts of the body especially susceptible to such impressions, and they stand in a peculiar pathological relationship to some distant organs. Thus, the impression of cold on the nape of the neck, or on the ankles, is apt to excite a disturbance of the broncho-pulmonary mucous membrane—on the lumbar region, of the kidneys. The intermediation of the nervous system is, no doubt, necessary to the production of these effects, especially of the sympathetic or vaso-motor system. A curious illustration of this mechanism, but through the agency of the mind only, is afforded by the experience of a gentleman, who sitting opposite to a supposed open window at dinner, was so impressed with the injury to be done him by the impact of the cold air on his unprotected head and neck, that he did actually get a violent cold, yet the window, of the most transparent French plate glass, was actually closed. Here the mental impression was sufficient to induce that disturbance of the vaso-motor nerves of the broncho-pulmonary mucous membrane. How much more certainly would the actual impact of the cold air-current have accomplished this result!

Although in the present state of science we may not accept the ancient phrase—taking cold—as it was originally meant, we are none the less compelled to admit the fact thus quaintly expressed, that a morbid condition may be induced by the impression of cold on the sensitive superficies.

THE WASHINGTON SANITARY CONFERENCE.

The conference of representatives of State and Municipal Boards of Health which took place in Washington on the 10th and 11th of December, and a report of which we give in another column, was a very interesting and important one, and it is to be hoped that it will lead to valuable results.

The immediate cause of the calling of this conference was the danger of an invasion of this country by cholera next year, and it was the unanimous opinion of its members that this danger is a very real one, and that the country is at present by no means in a condition to meet it properly. The reports from the various States and large cities represented, which occupied the greater part of the time in the public sessions, made this fact sufficiently evident.

Upon the duties of State and Municipal authorities in view of the existing situation, there was substantial unanimity of opinion, which may be summed up in saying that these duties are to secure the greatest possible cleanliness of all premises; to get rid of privy vaults and cesspools; to provide pure water supply, and to prevent the use of that which is impure, including more especially the water of wells in large cities; to secure the earliest possible notification of the occurrence of cases of cholera, and, by isolation and thorough disinfection, to endeavor to prevent its spread.

The question as to what the National Government should be called on to do was one upon which there was more difference of opinion; although, even from the first, there was more agreement than might have been expected. All agreed that the present National Health Organization is in a most unsatisfactory condition, and that some change is absolutely necessary. All the members of the conference except, perhaps, two, were opposed to having any system of National quarantine as at present administered. The great majority desired that the National health council should be a body representing the several States; or, at all events, those States which have regularly organized boards of health. Some wished that every State should be represented by a delegate to be appointed by the Governor, but the prevailing opinion was that a body so organized would be unwieldy.

There were also many shades of opinion as to what should be the powers and duties of the National health council, but the majority were inclined to approve the provisions of the Act passed in 1879, conferring certain powers on the National Board of Health.

The report of the committee appointed to report on the best course to be pursued by the Federal Government was rather vague, but embodied substantially the above ideas, and was approved without dissent, the report being recommitted to the same committee to be put into definite shape, and then to be sent to Congress as the opinion of the Conference. The result is a draft of a proposed Act which seems to be a very good one, and which, if enacted, will avoid many of the difficulties which beset the present National Board. It provides that the inspections at foreign ports, and the obtaining information as to the progress of contagious diseases abroad, shall be under the direction of the State Department, that the Board shall elect a secretary, who is to be its chief executive officer, that it may make investigations into the causes of disease, aid local boards, etc., and avoids placing the Board under the control of the Treasury Department, all of which appears to be very judicious.

In connection with this subject the proceedings of the Australasian Sanitary Conference, held at Sydney, N. S. W., from the 18th to the 30th of September last, and reported fully in the *Australasian Medical Gazette* of October, are of interest. This Conference was composed of the sanitary officials of the several colonies, and its main object seems to have been to frame quarantine regulations, to be recommended to the several legislative bodies of the different colonies for passage.

As regards cholera, the recommendations are that any vessel having on board any case which can reasonably be supposed to be cholera shall be quarantined, all hands, except those actually necessary to clean the ship, being detained under observation for not less than ten days, and that those who are employed to clean the ship shall, after they have finished, be also quarantined for ten days.

It is also advised, in order to prevent rabies from becoming epidemic in the country, that no dogs shall be allowed to enter until they have been quarantined for six months.

Evidently the Australian sanitarians have strong faith in the efficacy of quarantine, or, at all events, mean to give it a thorough trial.

ALBUMINURIA PRECEDING HÆMOGLOBINURIA.

DR. OTTOMON ROSENBACH, who was the first to show that hæmoglobinuria could be produced in man by the sudden cooling off of the body, as by a cold foot bath, calls attention, in the *Berliner klin. Wochenschr.* for November 24th, to another fact, that albumen excretion sometimes immediately precedes a hæmoglobinuria, and explains the phenomenon in the following manner:

The effect of cold is to destroy a certain number of red blood-disks, and there is thus produced a certain amount of plasma, useless for the immediate requirements of the organism. It has, therefore, to be excreted. This is partially accomplished by the liver, which uses the coloring-matter in the preparation of bile, and partially by the kidneys, which separate the albumen only until the hæmoglobin from the destroyed corpuscles amounts to more than the liver alone can use up, when the kidneys begin to separate it also.

Rosenbach suggests that diagnosis may be aided by an examination of the feces for increased bile secretion, which may indeed be inferred from the conspicuously dark color characteristic of such secretion.

RELAPSING FEVER IN EGYPT.

DR. FR. ENGEL, physician to the Sanitary Legation in Cairo, has, according to the *Berliner klin. Wochenschrift*, of November 24th, recently had the opportunity of studying the blood of some cases of relapsing fever in Egypt, and found no difficulty in demonstrating the spirochæta Obermeieri. The constant association of this fungus with the disease would seem, therefore, to be pretty well established, while its comparatively distinctive shape makes it always tolerably easy of detection. The disease was epidemic; and up to October 3d, some eighty-eight cases had occurred, of which fifteen died. It was impossible to discover that it had been introduced from without, and the conclusion was that it was autochthonous, an observation confirming the statement of Hirsch, in his Geographical Pathologie, that Egypt is one of the countries in which relapsing fever has its natural habitat.

SOCIETY PROCEEDINGS.

THE NATIONAL CONFERENCE OF STATE BOARDS OF HEALTH.

(Specially reported for THE MEDICAL NEWS.)

WEDNESDAY, DECEMBER 10TH—FIRST DAY.

THE National Conference of State Boards of Health met on December 10th at the Ebbitt House, Washington, D. C., in accordance with a call which set forth the danger to this country from cholera and the importance of adopting necessary precautions. The Association was composed of representatives from Health boards in all parts of the country and the health officers of cities. There was a large representation present.

THE PRESIDENT, MR. ERASTUS BROOKS, of New York, called the Convention to order. He said that the record of mortality caused by the cholera, even in the past few months, was most startling. Little or no preparation had been made to meet the disease in Paris or London, although it had prevailed for a whole season in the south of France and Italy, and had swept away thousands of lives which might by proper precautions have been saved. He reminded his hearers of the terrible mortality from cholera in the city of New Orleans from 1832 to 1855, the deaths from the disease during that period having reached 50,000. This excessive mortality was owing, he said, to the bad sanitary condition of the city during those years. Now, he said, thanks to a better public opinion and to the efforts of State and municipal health boards, New Orleans is perhaps as well prepared to meet the cholera as is any of the large Eastern cities. He said that although the masses of the people may not be well informed as to the character of disease germs and their propagation in the human body, in the soil, and in the atmosphere, all know what filth is and how it should be and can be removed. He discussed at length the importance of making preparations to meet the cholera.

THE ROLL-CALL

showed the following delegates to be present:

Drs. C. A. Lindsley, of New Haven, Conn.; J. F. McFarland, of Savannah, Ga.; J. H. Rauch, of Chicago, Ill; E. S. Elder, of Indianapolis, Ind.; J. N. McCormack and William Breyfogle, of Kentucky; S. S. Herrick, of New Orleans, and S. R. Oliphant, of Shreveport, La.; J. A. Steuart and C. W. Chancellor, of Baltimore, Md.; S. H. Durgin, of Boston, Mass.; A. F. Holt, of Cambridge, Mass.; H. P. Walcott and S. W. Abbott, of Massachusetts; H. B. Baker, of Lansing, Mich.; Charles N. Hewitt, of St. Paul, Minn.; Jos. Spiegelhalter, of St. Louis, Mo.; J. N. Jackson, of Kansas City, Mo.; J. C. Crane, of Nebraska; I. A. Watson, of New Hampshire; E. M. Hunt, of New Jersey; W. M. Smith and Erastus Brooks, of New York State; J. H. Raymond, of Brooklyn; A. C. Mercer, of Syracuse, N. Y.; T. F. Wood, of North Carolina; C. W. Rowland, of Cincinnati, Ohio; A. H. Iddings, of Dayton, Ohio; Crosby Gray, of Pittsburg, Pa.; E. W. Gemer, of Erie, Pa.; J. Ford Prioleau, of Charleston, S. C.; H. B. Horlbeck, of South Carolina; G. B. Thornton, of Nashville, Tenn.; J. B. Lindsley, of Nashville, Tenn.; R. W. Mitchell, of Memphis, Tenn.; Wm. Perry, of Galveston, Tex.; J. E. Reeves, of West Virginia; J. G. Cabell, of Richmond, Virginia; J. T. Reeve, of Wisconsin; Smith Townshend, of Washington, D. C.; A. B. LaRoyne, of Montreal, Canada; D. Montizambert, of Dominion of Canada; C. W. Covernton, of the Provincial Board of Ontario.

COMMITTEES APPOINTED.

The following standing committees were appointed:

On Federal Legislation—Drs. Walcott, Smith, Rauch, Brooks, McCormack, Baker, and Herrick.

On State Action—Drs. Watson, Hewitt, Lindsley, Hunt, Hewitt, and Covernton.

On Municipal Action—Drs. Raymond, McFarland, Durgin, Breyfogle, and Rowland.

W. M. SMITH, the Health Officer of the Port of New York, read a paper in regard to

THE FAILURE OF THE MARITIME SANITARY REGULATIONS TO PREVENT THE INTRODUCTION OF CONTAGIOUS DISEASES INTO THIS COUNTRY.

He also referred to the unreliability of bills of health from foreign ports, and to the legislative efforts that have been made to have the sick on immigrant vessels cared for before landing. The difficulty in securing a sanitary condition of affairs on ocean steamers, he said, lies in the fact that the owners are not citizens of this country, and, as a rule, they are indifferent. He dwelt upon the dangers of bringing infectious diseases into this country unless coercive measures are adopted. On many of the lines steamers have now isolated hospitals. The surgeons are found to be very frequently incompetent and their isolation of contagious diseases and their treatment are often a complete failure. The reason of this is that the pay of surgeons is small, and in consequence they are principally young men who want to see the world before settling down to the practice of their profession. To correct this defect he urged that ship surgeons be appointed after an examination by a competent board, and that their salaries and tenure of office be made the subject of proper regulations.

DR. COVERNTON cited a case in point of an epidemic of smallpox introduced into the neighborhood of Toronto by an infected emigrant who had been allowed to land through the carelessness or inefficiency of the ship's surgeon.

The paper was referred to the Committee on Federal Legislation, to which Dr. Covernton, of Quebec, was added as a member.

At noon a recess was taken until 2.30 P. M.

Soon after the noon recess the delegates proceeded to the State Department in a body and

CALLED ON SECRETARY FRELINGHUYSEN,

to whom the Chairman stated the objects of the conference, and the need of coöperation on the part of the government and of national legislation. The Secretary said that he was in hearty accord with the objects of the Association, and would coöperate as to matters that might be within his jurisdiction.

The delegates, headed by the Secretary of State and President Brooks, proceeded to the Executive Mansion and were presented to

PRESIDENT ARTHUR.

MR. ERASTUS BROOKS made an address, in which he thanked The President for the interest he had taken in matters relating to the public health, and expressed a hope that he would aid them in accomplishing the objects of the Conference.

THE PRESIDENT replied briefly, saying that he and the Secretaries of State and the Treasury were at present considering the subject of the importation of rags from infected ports, and hoped that a committee might be appointed from the Conference to confer with them on the subject. In the course of an informal talk, Secretary Frelinghuysen remarked that he thought the best place for disinfecting the rags was the port of export. Mr. Brooks replied that a majority of the delegates were of the same opinion.

Arrangements were made for further consultation on the subject between Secretaries Frelinghuysen and McCulloch and the Committee on Federal Legislation.

AFTERNOON SESSION.

DR. G. M. STERNBERG, United States Army, made a report on behalf of the committee appointed at St. Louis of the American Public Health Association upon

DISINFECTANTS.

This committee was divided into two sub-committees—one on the experiments on the comparative value of disinfectants, and the other upon their practical value. The former were entirely of a biological character.

DR. RAYMOND, of Brooklyn, reported on the practical side of the question. Sulphur, sulphate of zinc, common salt, and copperas are the only disinfectants in general use in this country. The germicide power of sulphur is generally established, but the best means of using it has not been determined. Experiments were made upon silks with sulphur, and after ten hours' exposure to the sulphur fumes the silks remained unaltered.

DR. J. E. REEVES, of West Virginia, offered a resolution in reference to the paper read by Health Officer Smith during the morning's session. It proposed an international committee of nine or more members, appointed by the leading maritime nations, whose duty shall be to supervise

THE MEDICAL AND SANITARY INTERESTS OF PASSENGERS UPON THE HIGH SEAS,

and to decide upon the qualifications of medical officers intrusted with their care, and requested the Secretary of State to consider the propriety of this suggestion, and, if practicable, invite the coöperation of foreign governments. The resolution was referred to the committee on federal legislation.

It was decided that the reading of all reports from individual delegates should be limited, and the Secretary proceeded to call the roll of States and cities.

Connecticut.—Dr. C. A. Lindsley gave a brief sketch of the satisfactory work of the State Board in the past, and the measures taken to guard against cholera.

Savannah, Ga.—Dr. J. T. McFarland, City Health Officer, made a favorable report.

Illinois.—Dr. John H. Rauch, of the State Board, reported good work done, and soon will have completed a thorough sanitary survey of the State; legislation has been perfected, and, in case cholera comes, the Board will have $150,000 of State funds for use if the National Government does not do its duty.

Indiana.—Dr. E. S. Elder, of the State Board, reported 325 local boards of health, with officers, and the trustees of every township or village in the State form a local board. The State is especially exposed if cholera comes from the long river fronts and the many trunk lines of railways crossing the State, as well as the flat surface at low level above the sea.

Kentucky.—Dr. J. N. McCormack, of the State Board, reports condition not what it should be, but progress is being made. The Board has as ample powers as any State, but county and town boards are not yet thorougly organized. Louisville, he said, is in especial danger in case of cholera, because of the water supply from surface wells and the general condition.

In the course of his report, Dr. McCormack referred incidentally to the epidemic disease recently prevailing in the mountains in the eastern portion of that State and Virginia, and stated that a competent medical inspector, Dr. J. O. Carson, of Bowling Green, had been sent by the State Board of Health of Kentucky to the afflicted district to investigate the outbreak. His (Dr. McCormack's) information indicated that in the news thus far received from that locality there was some exaggeration. When, however, he should receive a report from the inspector, and should have had an analysis made of the water to which the disease is attributed, he would be able to speak more definitely on the subject.

Louisiana.—Dr. R. S. Oliphant, of the State Board, reported on the sea coast and river quarantine, and of a convention held recently of neighboring Boards of States and cities.

Baltimore.—Dr. J. E. Steuart, of the City Board, said the water supply is exceptionably good, but the Board has been unable to arouse the authorities, or as yet to have the old system of privy vaults abandoned; quarantine has been practically raised or placed on a winter footing.

Maryland.—Dr. C. W. Chancellor, of the State Board, had nothing particularly gratifying to report, but the general health of the State is good.

Boston.—Dr. S. H. Durgin, of the City Board, gave an interesting description of the method of control over public bathing, baby-farming, hospitals, etc.

New York City.—Dr. Smith, of the City Board, read a carefully prepared paper on the methods of work and the precautionary measures taken, and at 5.30 P. M. the Conference adjourned until 10 A. M. December 11th.

During the session the President read a letter from Dr. Billings, informing the delegates that there are now in the Army Medical Museum, in this city, specimens of the comma-bacillus, received from Dr. Koch, and extending to them an invitation to visit the museum.

Thursday, December 11th.—Second Day.

The Conference convened at 10 A.M. Dr. J. G. Cabell, of Richmond, Va., and Dr. William Canniff, of Toronto, Canada, were registered as delegates. The hearing of reports from State Boards and cities was continued.

Brooklyn.—Dr. J. H. Raymond, Health Officer, reported a good sanitary condition there.

New York.—Hon. Erastus Brooks, of the State Board, said that careful preparation has been made to resist the cholera, and he thought the State in as good condition as any other to fight the disease. Dr. Smith, Health Officer of New York City, who reported the day before, added some remarks about the continued use in some localities of well water, which is almost invariably polluted by surface filth, and thought that the use of water from wells in cities should be forbidden.

These reports were followed by others from Syracuse, N. Y., Dr. Mercer; Wilmington, N. C., Dr. Wood; Cincinnati, Dr. Rowland; Dayton, Ohio, Dr. Iddings; Pittsburg, Mr. Gray; Charleston, S. C., Dr. Prioleau; Columbia, S. C., Dr. Horlbeck; Nashville, Dr. Thornton; Tennessee, Dr. Lindsley; Galveston, Dr. Perry; Wisconsin, Dr. J. T. Reeve; Michigan, Dr. Baker; Canada, Covernton, and Quebec, Dr. Montizambert; and Toronto, Dr. Wm. Canniff.

Richmond.—Dr. Cabell said that the annual appropriation of $10,000 made by the city authorities was not sufficient by half. The city at present was in a filthy condition. He said the death-rate among the colored population was so large as to excite the pity and commiseration of the whole community. He attributed it, not to constitutional peculiarity, but to poverty.

Wheeling.—Dr. Reeves said that, in spite of the statement of the health officer of that city recently in the public press to the contrary, the sanitary condition of Wheeling was now deplorable. The refuse of 12,000 people was emptied in and about the head of the water supply of the city. He had endeavored to cultivate a cholera fright, and he believed that the effect would be good, and that the service of the water supply would be moved three miles up the river beyond the point of contamination. Last year the total expenditure for sanitary purposes in Wheeling was the magnificent sum of $327. He had recommended that women be appointed as inspectors in each ward, and he believed this would have good results.

The District of Columbia.—Dr. Townshend, the Health Officer of the District, made a brief report, in which he said that this city was in an excellent sanitary condition, and he believed that, with the completion of our present system of water supply, our sewerage, and the reclamation of the Potomac flats, Washington would not only be the most beautiful city on the continent, but the healthiest. He said that he had but little confidence in quarantine regulations to prevent the introduction of infectious diseases, but relied more on rigid sanitary regulations.

THE SOUTHERN PLAGUE.

Dr. McCormack, of Kentucky, read a preliminary report of the results of an investigation into the causes of the epidemic made by J. H. Carson, a Kentucky inspector, which has recently been prevalent in that State. He discredited the theory of mineral poisoned water, and said that the disease was epidemic dysentery caused by malarial poison, generally caused by drinking stagnant water charged with it. The total number of deaths in the State did not exceed 225. The crops were not abundant this year, yet the people have plenty to live on and keep their stock alive until the next harvest.

IMPORTATION OF RAGS.

THE PRESIDENT then read a telegram from Mr. Augustus Smith, a large importer of rags in New York, which stated that there was no case on record of cholera from rags, or of its breaking out in paper factories. Mr. Charles E. O'Hara, Secretary of the Seymour Paper Company of New York, stated that they had been successful in disinfecting imported rags from Egypt. They employed about two hundred hands, women and children, to sort the rags, and he only knew of two cases of smallpox or other contagious diseases among them.

THE COMMITTEE ON STATE ACTION

reported that the laws of the States are so diverse that it was difficult to formulate a system of uniform action. Each State should be fully advised of the conditions prevailing at the ports of neighboring States through which disease might gain admission to its own cities. In reference to interstate communication, it is essential that officers of State and Federal boards in adjacent States should promptly notify each other of any case of cholera occurring in its own domain.

It is also essential that local boards shall determine in advance how the first cases shall be cared for, so as not to lose valuable time and allow the disease to gain a foothold. It is the judgment of the committee that the time has come when the State health boards should be recognized in some national form as having authority to indicate what sanitary measures are necessary, and secure the same through those departments of the government under which they would naturally fall.

THE COMMITTEE ON MUNICIPAL ACTION

also presented their report, recommending the adoption of the following municipal regulations: That all surface wells be closed, privy vaults abolished, stagnant pools disinfected, sewers kept clear, accumulations of filth prevented in tenements, the food supply inspected, garbage promptly removed, and the attention of authorities of all institutions, public and private, and of individuals as well, be drawn to the great importance of maintaining habits of personal cleanliness as one of the most efficient means of warding off an attack of cholera or reducing its virulence. The authorities of all States, cities, or villages are urged to adopt measures which will result in the amelioration of all the conditions above referred to, with the warning that if the conditions are allowed to continue they will greatly promote the spread of cholera when it does come.

The Conference then adjourned until 4 o'clock.

In the interim the Committee on Federal Relations called by invitation upon the Secretary of the Treasury to discuss the best means of

DISINFECTING RAGS

and of preventing the introduction of disease through their means. The committee was informed that the authorities had the matter under consideration, and would soon promulgate their views in a circular of instruction to consular and customs officers. It is understood that there is a difference of opinion between the Secretaries of State and the Treasury as to place of disinfection. The former is said to favor disinfection at the port of export, and the latter at the port of import.

The Committee on State Action called upon the Secretary of State and consulted with him as to the consular regulations governing the inspection of foreign bound vessels.

THE CLOSING SESSION.

On reassembling, at 4.30 P. M., Dr. J. H. Raymond was called to the Secretary's desk, and the Chairman of the Committee on State Action made a supplemental report to the effect that

STATE BOARDS

should be promptly organized in States where they do not now exist, so as to secure efficient local boards, and that ample appropriations should be made in States, so that the State, municipal, and local boards may be enabled to work continuously and without embarrassment in case of epidemics.

COMPULSORY VACCINATION.

DR. J. T. MCFARLAND, of Savannah, offered a resolution that vaccination should be made compulsory, under United States laws, and gave an instance in which his own persistent refusal to permit a vessel to come to Savannah until all on board had been vaccinated kept confluent smallpox out of the city, as there were two well-defined cases on board. The resolution was referred to the Committee on Legislation without discussion.

DR. WALCOTT, of Massachusetts, made a partial report from the

COMMITTEE ON FEDERAL RELATIONS AND LEGISLATION,

that the draft of a bill had been prepared which needed more consideration and examination, and commented on various sections. He thought the collection of foreign statistics should be by consular officers through the State Department.

Dr. Chancellor, of West Virginia offered the following resolution: "That so much of the report on federal legislation be referred back to the committee, and the committee be increased by five, and the committee be directed to urge on Congress a bill providing for the organization of a health department of the United States."

THE PROPOSED BILL.

The rough draft of the bill prepared by the Committee on Legislation, and explained by Dr. Wolcott, embodied the ideas of the committee members of the requirements of preventative legislation.

The bill provides for:

1. A national health organization, made up of members of actual boards in the various States, to be appointed by the President and confirmed; to meet here annually, and to serve without compensation, except actual expenses. The board to have the usual officers; the secretary to be the executive officer, and not necessarily a member.

2. The board to make sanitary investigations; collect information; assist local boards in preventing disease; in case of epidemics, to report the matter to the President for his action before preparing regulations for local boards; and, if the latter neglect or refuse to enforce

them, the President may appoint officers to carry them into effect.

3. Provides regulations to govern vessels leaving foreign ports.

4. Provides the penalty for vessels entering ports in violation of the sanitary regulations.

5. Provides the enforcement of regulations by State and municipal boards.

6. Provides that the State Department shall collect, through our consuls, information and statistics of the sanitary condition of foreign countries for the use of the board and public information.

7. Authorizes the President to detail army and navy medical officers in case of necessity. The remaining two sections relate to minor details of organization and methods of expenditures.

Considerable debate followed, participated in by Drs. Rauch, Walcott, Chancellor, and others, and the resolution was adopted. The method of naming the additional members was debated and left to the committee.

Dr. Smith, of New York, from the Committee on Legislation, offered a resolution, which was adopted, providing an

INTERNATIONAL HEALTH COMMITTEE,

to be of three members appointed by the Secretary of State, who shall correspond with foreign health officials, and that a conference of boards of all maritime nations be asked for by the President of the United States, which conference shall adopt rules for carrying and inspection of ships and passengers.

The conference then, at 5.30 P.M., adjourned, to meet at the call of the President, it having been decided that such action might become necessary in view of the threatened approach of the cholera.

THE COMMITTEE ON FEDERAL LEGISLATION

held a meeting, immediately after adjournment, to complete the proposed bill for presentation to Congress, and will remain in Washington until the work is completed. The five additional members of the Committee were appointed as follows: Drs. J. C. Hearne, of Missouri; T. F. Wood, of North Carolina; C. W. Chancellor, of Maryland; E. S. Elder, of Indiana; and G. B. Thornton, of Tennessee.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 4, 1884.

The President, Fordyce Barker, M.D., LL.D., in the Chair.

Dr. Joseph E. Winters read a paper entitled

IS THE OPERATION OF TRACHEOTOMY IN DIPHTHERITIC CROUP DANGEROUS?—WHEN SHOULD THE OPERATION BE PERFORMED?

He said that, at the close of a discussion in the Obstetric Section of the Academy at a meeting held in March last, the author of the paper of the evening declared tracheotomy in this condition to be the most dangerous of all operations in surgery. Such a conclusion he could not permit to pass unchallenged. The danger from hemorrhage, he said, had been greatly exaggerated, and he mentioned that Mr. Durham had not met with a single case of serious hemorrhage in his service at Guy's Hospital. Bretonneau, to whom the profession was indebted for the revival of tracheotomy in the nineteenth century, did not speak of danger attending it or special skill being required for its performance. The canula and the after-treatment were the matters upon which he laid the most stress. Trousseau, who performed the operation in more than two hundred cases of diphtheria, regarded it as more delicate than dangerous. Rilliet and Barthoz considered it not dangerous. West stated that it was admitted on all hands that, in itself, it was not attended with danger.

He next proceeded to inquire, How does diphtheritic croup tend to produce death when left to itself? In a large proportion of cases, he said, by the prevention of access of air to the lungs; and tracheotomy afforded a fair chance of recovery by providing an artificial passage by which air could reach the lungs. When the operation failed to save life, it was either because the resort to it had been postponed until too late, or because sufficient and proper after-care and treatment were wanting. Tracheotomy perfectly accomplished its primary object—the rescue from death by asphyxia.

In regard to its influence on the original disease, Sir James Paget said that he had never seen the wound become diphtheritic after tracheotomy. Having seen this statement, Mr. Sperry wrote to Sir James Paget that he had observed this in several instances. Dr. Parker, of London, had seen it in only two instances, and Mr. Howard Marsh stated that diphtheria of the wound was rare. Having quoted Trousseau on the subject, Dr. Winters remarked that he would not advance the view that diphtheria never attacks the edges of the wound, although he believed this occurrence to be very rare. Carbolic washes were regarded as of great service, both in the way of the prevention and of the treatment of this complication.

In speaking of the influence of tracheotomy on the course of croup, he said that the operation secured for the larynx entire rest, and this of itself led to the suspension of the disease there. In this connection he quoted a number of cases reported by Sannais, Trousseau's pupil, in which this tendency to a cure was shown. It was well known that ulceration of the larynx, in connection with pulmonary disease, was sometimes cured by the performance of tracheotomy, and it was also a fact that, in these cases, if the opening thus made in the trachea was allowed to close up, the ulceration would almost certainly recur in the larynx. Having referred to the testimony [illegible] other writers, he said that in the autopsies that he had seen in cases in which tracheotomy was performed no membranes had been found to have formed below the seat of the operation. If, therefore, tracheotomy was not dangerous *per se*; if it afforded relief to obstruction of the glottis; and if it did not affect the course of the disease injuriously, it certainly brought with it no added element of danger.

He spoke next of the time when the operation should be performed. Was it right, he asked, when medicinal agents were found to fail, to trust to the exceedingly rare occurrence of expectoration of the membranes? The statistics of cases with and without tracheotomy were instructive, and he thought that such figures would at once decide what was the proper course to pursue. Nothing could be gained by delaying the resort to the operation; while, on the other hand, it had been conclusively shown that delay seriously compromised the successful issue of the case. Having described the symptoms the alarming character of which indicated the necessity of performing tracheotomy at once, he remarked, "And yet we are advised to wait until death is imminent." As rational would it be, in strangulated hernia, he continued, to wait till gangrene had set in before operating. Delay here was dangerous in the same proportion.

The results of numerous autopsies showed that the lungs were in a state of marked venous congestion in cases in which tracheotomy had not been performed, and also in those in which it was done in the third stage, and death followed soon; while in those in which the operation was resorted to early, there was no venous congestion. Such a condition resulted, therefore, from the obstruction of the larynx, and not from the operation. The reason why pulmonary trouble apparently followed tracheotomy was because the lungs were, at the time, in a state of congestion, secondary complications having already set in. The proper way was not to wait until the results of protracted obstruction to respiration—such as carbonic acid poisoning, etc.—had appeared.

The life-giving properties of oxygen were acknowledged by all, and pure warm air he believed to be the very best remedy for diphtheritic croup. In a majority of cases of the affection death was due to want of oxygen and exhaustion of the nervous system. Oxygen was nature's sovereign remedy, and the furnishing of it to the patient should not be regarded merely as a last resort. An early resort to tracheotomy would no doubt save a large number of lives that were now lost, and, therefore, whenever the labored respiration (expiration as well as inspiration being difficult), the recession of the chest-walls, and the alteration of the voice left no doubt of the diagnosis, and when ipecacuanha was no longer successful in producing vomiting—it was time to perform the operation.

It was a mistake to suppose that early age contraindicated it, since instances had been recorded of its successful performance at the age of six and nine weeks. With his paper, Dr. Winters said, there was a table in which he had attested no less than seventy-four successful tracheotomies in children under two years of age performed since January, 1830, and twenty of these were under one year. In very young children, however, the disease advanced with much greater rapidity, and was also more liable to be attended with complications, than in older ones.

In the prognosis the following points would have weight: early age, previous ill-health, especially affections of a scrofulous nature, the presence of scarlatina or measles in the neighborhood when the child had not already had the disease, enlarged lymphatic glands, and nasal diphtheritis. It was a bad sign if the respiration did not become free, and also if there was difficulty of deglutition after the operation.

He then spoke of the necessity of proper after-treatment and careful nursing. The great causes of death after tracheotomy, he said, were, *first*, the too late resort to the operation; and, *second*, inefficient after-care, including, as one of the principal sources of danger, the want of proper attention to the canula. All the circumstances surrounding the patient ought to receive the most careful and watchful consideration.

As he had previously remarked, a most exaggerated impression of the danger of tracheotomy prevailed, and he thought it of great importance that the community at large, as well as the profession, should be taught to understand that the opinion that it was dangerous was erroneous. On the contrary, delay in performing it was highly dangerous, and he then proceeded to relate instances in which fatal results had followed such delay. In England nearly all the tracheotomies in hospital practice were performed by the house-surgeons, who were instructed not to wait in cases of emergency until the visiting surgeons could be summoned. To delay the operation in order to hunt up a skilled surgeon was as culpable as to leave a patient with a spurting artery for the same purpose. Every family physician should be ready to perform it at any time.

The conclusions of the paper were as follows: That tracheotomy of itself, if performed with care, involved little danger to life; that want of care in its performance was a frequent cause of fatal results; that the operation should be performed early, as delay was dangerous; that it was never too late to operate, however desperate the case; that no patient who died after the operation would have lived if it had not been performed.

In closing, he said he could not but express his profound conviction of the truth of a prophecy which had recently been uttered, that tracheotomy would soon be regarded as one of the minor operations of surgery.

Dr. J. Williston Wright said that he had never regarded the operation of tracheotomy as an especially difficult one, though he was well aware that the conditions under which it was frequently performed in this city were most unfavorable. When, as was very apt to be the case, it was called for in a young child with a short neck and deep trachea, the chances of success were certainly problematical. Still these difficulties were not so great that they could not be surmounted, and a cool head and steady hand, with careful attention to every detail, were what was needed to obtain a satisfactory result. If the symptoms were not urgent, it was well to pause and check some of the hemorrhage; but if the danger was imminent, no time was to be lost in this way, and the bleeding veins were to be ignored altogether. He agreed with Dr. Winters that the hemorrhage would stop as soon as the knife entered the trachea, or, at all events, as soon as the tube was inserted. With regard to blood getting into the trachea, he could not see that this was of special importance; and it had sometimes seemed to him that this was the very thing needed, since it was the means of exciting violent expulsive efforts by which the mucus, as well as the blood in the trachea, could be gotten rid of.

As to the time when the operation should be performed, he agreed with the author of the paper that it should be resorted to early, and he would advise its performance in any case in which there was a certain diagnosis of diphtheritic croup as soon as severe symptoms supervened, which were not relieved by other remedial measures. The operation was not in any sense a cause of death. Except for the occurrence of possible complications, like pneumonia, it was not more severe than a cut in the arm or leg.

Dr. A. Jacobi said that the subject of tracheotomy had engaged the attention of many writers during the past two generations, and the author of the paper this evening had quoted a large number of them to prove that there was no danger connected with the operation. With the exception of the matter of hemorrhage, he had not told what dangers had been attributed to it, and how they could be avoided, or overcome.

As to the dangers, the principal one was from bungling operating. Tracheotomy was by no means necessarily a bloody operation, though it frequently was so in careless hands, or when the operator was in haste to get it through. The main point in performing it was to act deliberately. If it was deemed advisable to operate about the isthmus, it was best to peel off parts of the latter by Voss's operation. He thought it was a grand mistake to cut through the isthmus, as a rule, and that such a procedure was only justifiable in cases in which the patient was in imminent danger. He was not of the opinion of Dr. Wright, that, when considerable hemorrhage resulted from the incision, the operator should go on cutting right through. Under these circumstances it was often difficult to find the trachea at all, and he mentioned cases in support of his position. It was not by any means a matter of indifference whether blood got into the trachea or not. It was true the child might cough; but it would certainly not throw off everything in the act of coughing, and ten or twenty minutes afterward more blood would very likely come up. When any foreign body entered the smallest bronchi and the air-cells, the same effect was produced as by the presence of viscid mucus in bronchial catarrh. The air-cells being impeded, broncho-pneumonia would result; and broncho-pneumonia was very frequent after tracheotomy, as the result of blood getting into the small bronchi. As a rule, however, the entrance of blood into the trachea during the operation could be avoided, and in order to do this the operator should not cut into the trachea until he was able to see just where he was.

There was another danger to which it was, perhaps, well to call attention, viz., that of operating without an anæsthetic. It had struck him that a much larger proportion of the older writers were opposed to the operation than of modern ones, and he believed that the difference was due to the discovery of anæsthesia. Thus, a few years ago, Billroth had declared that tracheotomy was the most formidable of operations in childhood. Since chloroform and ether had come into general use it was very rare that death occurred actually during the operation. Without anæsthetics, the simple struggling of the patient was liable to result fatally, and he had known of children dying even in consequence of the struggles excited by the attempt to make a nasal injection. Of the two agents, chloroform and ether, the former, he thought, was greatly preferable, because ether required too long for the production of anæsthesia, and because the struggling before this was reached was dangerous. The principal dangers in tracheotomy, therefore, were from not using chloroform and from hemorrhage.

As to the time when the operation should be performed, Dr. Winters had stated that, if the diagnosis was made out, not to delay at all. In his opinion, however, whether the diagnosis of diphtheritic croup was positive or not, it was the duty of the physician to perform tracheotomy whenever there was laryngeal stenosis sufficient to produce symptoms of dyspnœa. In some cases of simple laryngitis, there was the same obstruction of the air-passages as in croup, and the indication for tracheotomy was just as urgent. He objected to dividing an attack of croup into several stages. It was true that such stages seemed well marked in certain cases, but in many instances this was not so, and sometimes the diphtheritic process was so rapid that severe and extensive croup seemed to develop all at once. Whenever, therefore, there was laryngeal stenosis, a considerable amount of recession, lasting not merely for a few minutes, and well-marked and increasing dyspnœa, especially in the morning, with cyanosis and a frequent and irregular pulse, the indication was to perform tracheotomy, whether the difficulty was due to the presence of membranes or some other obstruction.

Pneumonia was not a contra-indication; and in cases in which sepsis from diphtheria was present in the system, there was even a stronger indication for the operation than in others, because as soon as the trachea was opened the fetid inhalations from the mouth and nose were cut off. These, then, were the principal indications. In cases in which they did not exist, or but to a limited extent, it was better to wait, and there was all the more encouragement for doing this, on account of the recent advances which have been made in the medicinal treatment of croup. The bichloride of mercury, especially, had proved of very great service, and he was only confirmed in the opinion in regard to its efficiency, which he had expressed at the meeting of the Obstetrical Section of the Academy in May last, by the experience that he had had with it since that time. In ordinary cases of croup, therefore, he thought it was safe to delay operating until the bichloride had been given a fair trial, in addition to other remedies. He was glad to say that the percentage of recovery without tracheotomy in his cases of croup had been of late much larger than ever before.

He next proceeded to inquire of what patients died in fatal cases in which the operation had been performed. The first cause he mentioned was diphtheritic sepsis; and the second, other complications of diphtheria, such as paralysis, nephritis with uræmic poisoning, adenitis, fibrinous pneumonia, etc. The third and principal cause was broncho-pneumonia or œdema of the lungs; and the fourth, the descending diphtheritic process. Many cases of the latter had been noted in this city during the last few years. Such cases would be found to do well for about twenty-four hours after the operation, when they would begin to grow worse again, and death would ensue in from fifty to seventy hours from the operation; the average time being sixty hours. The membranes would form down to the ramifications of the bronchi, and suffocation then result. In one case which he related there were convulsions, caused by carbonic acid poisoning, and these were relieved by the introduction of oxygen gas through the tube in the trachea.

Dr. J. Lewis Smith said that it was well understood that the older the child was, other things being equal, the less the danger from tracheotomy. In two conditions the danger was especially great. The first was when the patient was nearly moribund. Under such circumstances the physician would be induced to operate hastily and without taking sufficient precautions for the control of hemorrhage. The risk was, therefore, greatly increased in consequence of his not being able to feel his way. The danger was also greatly enhanced, as Dr. Jacobi had stated, by not operating with anæsthetics. The first case of tracheotomy that he had ever witnessed was an example of this. No anæsthetic was given, and amid the violent struggles of the child large veins were divided, with the result of causing very free hemorrhage. In this instance the patient died as soon as the trachea was opened, partly from the loss of blood and partly from the entrance of blood into the bronchial tubes. The other condition of peculiar danger to which he had alluded was when the operation was performed by a novice, and proper precautionary measures were not adopted. The author of the paper had advised that every physician should be prepared to perform tracheotomy at any time when it might be called for; but in a large city like New York he did not think this was good advice, especially to young men, because it was always so perfectly easy here to obtain skilled assistance, which would render the chances of success very much greater. Of course, in the country the circumstances are different.

Dr. Winters had intimated that it was requisite to have a positive diagnosis of pseudo-membrane before proceeding to open the trachea; but he agreed with Dr. Jacobi, that the degree of stenosis, produced by whatever cause, should be the only guide for the operation. He recalled two cases of acute laryngitis at the New York Foundling Asylum, in which there was marked stenosis, although there was no false membrane. No operation was performed, however, and both the cases terminated fatally. He thought, therefore, that it was a mistake to wait until the presence of such membranes should be determined before operating.

In diphtheritic croup there were two classes of cases, which differed materially as regards the necessity of an early resort to tracheotomy. In the first, which included a very large number of cases, the inflammation of the larynx commenced early, and the fibrinous exudation formed with great rapidity, so that the performance of tracheotomy was indicated at an early period. In the other class, the larynx became affected later (usually from the fifth to the eighth day), and the membranes did not form so rapidly. Hence, there was not the same urgent necessity for operating, and it was proper to defer this until a fair opportunity had been afforded for the action of other remedial measures. In the first rank of these, he placed alkaline inhalations, to which he believed that *tripsin*, which formed an important constituent of the *extractum pancreatis* now so much in vogue, could be added with advantage. In cases of diphtheria, he always watched the quality of the voice with the greatest care from day to day, and again and again he had been able to prevent any serious invasion of the larynx by such inhalations. Old remedies had also been revived with success in the treatment of croup. Calomel had been found to be very useful in the first stage, and the happiest results had been claimed from the use of the bichloride of mercury. At the Foundling Asylum, tubage, which had been employed twenty years ago by Trousseau, had been revived, with a fair amount of success as a substitute for tracheotomy, and Dr. O'Dwyer had paid special attention to this mode of treatment. He knew of at least one case that had been saved by it; and in instances in which the pseudo-membrane did not extend very far, he believed that it would prove of essential service.

Dr. John H. Ripley said that his views of the dangers and difficulties of tracheotomy, and the consequences to be apprehended from it, are all opposed to those of Dr. Winters. In the first place, as to the dangers. The question under consideration was, not whether the operation of tracheotomy in general was a difficult and dangerous one, but whether it was difficult and dangerous in young children with croup. In his opinion, the danger consisted, first, in the condition of the child; and, *second*, in the necessity of performing the operation within a certain time. Dr. Winters had mentioned but one danger, viz.: hemorrhage; but he did not believe that this was the most common cause of death after tracheotomy. The child in whom the operation was called for is suffering from a diseased system, a stenosed larynx, and often an infiltrated neck. In order to get at the trachea, it was necessary to go down for perhaps two inches through the tissues, and this necessitated a great deal of time and care; while at the same time the patient might be so paralyzed with the poison of diphtheria that it was liable to die at any moment from syncope. In addition, if the stenosis was very great, the child was liable to die of apnœa; or, again, it might die from paralysis of the heart induced by the efforts of struggling, as mentioned by Dr. Jacobi. For his part, he was content to go with the small minority of authorities, especially as it included the names of such men as Gross, Holmes, and Billroth, who are well known all over the world, and whose opinions are certainly worthy of consideration. He had performed tracheotomy over 100 times (about 110 in all), and, in addition, had seen it done at least fifty times by others. He had met with almost every complication that could exist, and he had seen all sorts of medical men take a trial at the operation. He thought he had saved some lives by assisting inexperienced operators, but he had also seen a number of patients die on the table.

He believed that tracheotomy for croup in young children was one of the most dangerous operations in surgery. In this position he had the endorsement of Gross, Holmes, and Jacobi, and he believed that it was the prevalent opinion among the surgeons of this city. As to the dangers, he had a record of ten cases in which death took place on the table. In four of them the operation was performed by men of marked surgical ability, and in one the internal jugular vein was punctured by one of the best surgeons that New York ever had. It had been remarked that it was a simple thing to plunge a knife into the trachea, but he had known of two or three such attempted plunges, which were most disastrous in their consequences. Thus, in one instance the knife was plunged into the spinal cord, and in another into the œsophagus, while in a third it entered the side of the trachea and went through. It is, indeed, often very difficult to get into the trachea in the median line.

In speaking of the objections to early operation, he remarked (as he said he had often had occasion to do before) that the men who operated early had the greatest success, not for the reasons that Dr. Winters gave, but because those done early were usually *unnecessary* operations. Within the last year he had seen ten cases of croup recover without tracheotomy. It was often difficult to differentiate between cases of croup and those of catarrhal laryngitis, which generally get well without the operation. In the diagnosis of the latter it would be proved, as a rule, that expiration was free, and only the inspiration embarrassed. There was a certain number of cases of diphtheritic croup which would get well without tracheotomy, and this accounted for the number of *specifics* for croup of which we heard so much. Moistened air was all that was required for many of the cases, and some of them would recover without any treatment whatever. In every case of the disease, however, he advocated the closest watching.

Among the most prominent causes of death in late operations had been mentioned pneumonia and infiltration of the lungs. If any fact had been demonstrated in medical science it was that stenosis of the larynx, trachea, or bronchi, which was not complete, gave rise not to congestion but to anæmia of the lungs. This fact could readily be substantiated during life by means of physical diagnosis, percussion over the lungs showing exaggerated resonance, instead of the dulness of congestion. The same effect was produced as if a tumor were pressing on the air-passages, and acute emphysema resulted from the attempt of the air vesicles to fill up the threatened vacuum. What would be found after death would be not broncho-pneumonia, but hyperdilatation of the air vesicles, similar to that met with in asthma; in addition, considerable areas of collapsed lung tissue. Dr. Maxwell had recently told him of a case which terminated fatally at Randall's Island, in which the membranes extended to almost the third bifurcation of the bronchi. There was not a sign of pneumonia, but there were two or three such areas of collapsed lung tissue. He had himself seen about twenty autopsies after tracheotomy, and in not a single one of them was there any pneumonia present. The most common cause of death after the operation was *bronchial* croup. In more than half of those which he had seen, the membranes extended as far as the four or fifth bifurcation of the bronchi, the patient necessarily dying of suffocation long before the air vesicles could be reached by the exudation. The three principal causes of death were bronchial croup, nephritis with uræmic poisoning, and respiratory or cardiac paralysis, or both combined. Which of these, he should like to know, would Dr. Winters attribute to delay in operating? He believed that an inexperienced man should call in an experienced one to assist him in performing tracheotomy, so as to afford the patient the best possible chances of recovery; but the trouble was that in a vast number of instances the disease went on after the operation, and death was exceedingly apt to occur from bronchial croup.

DR. WINTERS said, in reply, that it was a misconception to suppose that he had spoken of the entrance of blood into the trachea as a matter of no consequence. Properly performed, however, tracheotomy was an almost absolutely bloodless operation, and he had himself done it with a loss of not more than thirty drops of blood. After the integument had been divided the scalpel was to be laid aside, and a careful dissection of the tissues until the trachea was reached made with the forceps or the end of a pair of scissors. If very tense fascia was encountered, it should be taken up on the director and divided, preferably with dull scissors. As to the idea of Dr. Jacobi, that capillary, bronchitis or broncho-pneumonia was caused by blood getting into the trachea and making its way down into the bronchial tubes; this had been originally suggested by Niemeyer, but it had been long since exploded, and Niemeyer himself had abandoned it before his death. It was, of course, possible for a greater or less quantity of blood to get into the trachea during the operation, but if it, or any accumulation of mucus, was allowed to remain there the operator was wholly responsible for it. A tracheotomy was never complete until the trachea had been rendered perfectly clean. In regard to anæsthetics, he did not suppose that anybody at the present day ever thought of performing the operation without their use, unless under very exceptional circumstances; and he quite agreed with Dr. Jacobi that chloroform was decidedly preferable to ether, which, in addition to requiring more time for its action, was itself an irritant to the larynx.

He did not believe at all in the action of bichloride of mercury as a germicide or antifermentative when taken internally, since it was not possible to get a sufficient quantity of it for this purpose into the blood. It was eliminated as rapidly as it was taken into the system, and if by any chance it should accumulate to a small extent, it would be gotten rid of by vomiting or purging, so that not more than one-fiftieth of a grain could at any one time be brought in contact with the four pounds of blood in the body of a young child. It had no other action, he thought, than that of a simple tonic; its effect (when its administration was not kept up too long) being precisely that of iron in increasing the number of red corpuscles in the blood. Its effect in resolving fibrinous exudations was, therefore, not greater than that of any other salt of mercury. When membranes were found to any extent in the bronchi, he believed that they always existed there before the operation had been performed, for in such cases death always took place within too short a time after tracheotomy to permit of such an extension of the exudation below its seat.

It seemed to him that Dr. Ripley confounded the dangers of the operation with those of the disease, and he still maintained that the operation itself, performed with care, was not dangerous. Any man who was fit to be a general practitioner certainly could, if called upon, perform tracheotomy, and with perfect safety, in a young child with a short, thick neck.

When death occurred on the table, it was not due to the operation, unless the latter was performed with haste and carelessness, but always to a continuance of the disease, or to the late resort to operation. Dr. Ripley had claimed that, when performed early, tracheotomy in many cases was not necessary. This involved the question of diagnosis, and he believed that the family physician was better qualified to decide this than a surgeon specially called in. In the paper he had laid emphasis on the point that, as long as expiration remained free, there could be no pseudo-membrane present; but nothing else but this would produce labored expiration in connection with the whispering voice. Dr. Ripley's statements, in regard to congestion of the lungs, would not, he thought, bear close examination.

Passive congestion of these organs was undoubtedly occasioned by laryngeal stenosis, and croup and asthenia were not at all analogous.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, November 25, 1884.

THE PRESIDENT, ROBERT F. WEIR, M.D.,
IN THE CHAIR.

LEUKÆMIC LYMPHOMATA.

DR. C. K. BRIDDON presented a patient from the Presbyterian Hospital for the purpose of illustrating a disease which, he thought, it was impossible to distinguish from malignant lymphoma—the subject of the paper of the evening—except by examination of the blood. A married woman, twenty-three years of age, showed extensive enlargement of the cervical lymphatic glands on both sides, the disease having existed for nine months. The glands in the right axilla also were enlarged, but enlargement of the glands elsewhere had not been detected. There was some enlargement of the spleen. Examination of the blood revealed a large increase in the proportion of the white blood-corpuscles. The enlargement of the glands affected first one side of the neck and then the other. Dr. Briddon thought that most German authorities recognized the fact that it was impossible to distinguish the soft variety of malignant lymphoma from the leukæmic lymphoma, except by examination of the blood.

The treatment consisted of the administration of Fowler's solution in gradually increasing doses, begining with three drops. The patient had not been under observation a sufficient length of time to secure the full influence of the remedy.

EXCISION OF THE ENTIRE TARSUS FOR TUBERCULAR OSTEITIS.

DR. W. T. BULL presented a patient upon whom he operated, more than six months ago, for tubercular osteitis of the bones of the tarsus, and removed the entire tarsus, with the exception of the posterior rim of the os calcis—the compact tissue of the bone. The result had not been very satisfactory. The patient was an Italian, twenty-two years of age, without constitutional vice. He entered the hospital on the 17th of last March, when he gave a history of having suffered from stiffness, swelling, and pain in the ankle for fifteen months, which finally broke out into sinuses, and the disease completely disabled him. On examination, there was found carious bone. The general condition of the patient was very good, and there was no evidence of tubercular deposit in any other part of the body. He was anxious to have the foot amputated, but Dr. Bull thought he might be benefited by conservative surgery, and therefore operated in the manner indicated. The wound healed satisfactorily, so far as general symptoms were concerned, under peat and iodoform dressings, and the application of plaster-of-Paris splints. At the end of four months, however, the discharge continuing, Dr. Bull scraped out the sinuses, and in about one month after this operation they were all healed. Since then they have broken out once or twice, but are now healed. He could bear weight on the foot at the end of three months, but with pain. At present the limb is one inch shorter than the other, the calf of the leg smaller by two inches, and the circumference of the instep less by three-fourths of an inch, and the heel broader by one inch than the opposite heel. The foot is in good position, and there is considerable flexion and extension of the metatarsus.

The patient walks with a slight limp, upon a thick-soled shoe. He is working in a grocery store, but has pain enough at times to interfere with his work. It should be remembered that there was left behind a thin shell of the os calcis, through which the drainage-tube passed, and the continuance of the pain might be explained by inflammation in this bone. It was possible that the functions of the foot might improve, as the man had had a proper shoe but a few days. Judging from the present condition, he should be compelled to think that amputation at the ankle-joint would have been a more rapid means of cure, and one that would have given, with a good artificial foot, better facility in walking. But the man was hardly in a position to provide himself with that luxury. Dr. Conner, of Cincinnati, reported last year to the American Surgical Association two very favorable results after complete excision, and Dr. Bull had been stimulated, by a perusal of his very thorough paper on the subject, to try conservatism in preference to amputation.

Dr. Bull referred to another case—that of a married woman, twenty-five years of age, who had about the same condition of the tarsus, but there was, besides, evidence of disease of the tibia and fibula. He removed not only the bones of the tarsus, but sawed off the lower ends of the tibia and fibula, yet the patient was never able to walk at all except by the aid of artificial support, and the limb was finally amputated.

He thought that the testimony afforded by these two cases was certainly not very satisfactory with regard to extensive resection of the bones of the tarsus.

DR. A. POST said that he saw Dr. Connor's patients in Cincinnati, and, as he remembered, the entire tarsus was removed, and the patients, after the lapse of several years, walked very well, although there was, of course, considerable shortening of the feet.

TWO CASES OF FALSE JOINT (ESMARCH'S OPERATION) FOR ANKYLOSIS OF THE JAW.

DR. WEIR presented two cases in which Esmarch's operation had been performed for the establishment of a false joint in the lower jaw on account of ankylosis. The first patient was a woman, thirty-three years of age, who, ten years ago, while cleaning windows, fell, striking her chin and the left side of the face on an iron bar. Much swelling followed, causing, at first, difficulty in closing the jaws, and subsequently, inability to open them. At the end of a year she was compelled to subsist on fluid diet. In September, 1878, she entered St. Vincent's Hospital, where the cicatricial bands were divided and separated freely from the jaws and the mouth forcibly opened. In spite of wedges subsequently used, recontraction took place, as is commonly observed. In May, 1879, at Bellevue Hospital, the cheek was split open from the mouth, the bands cut out, and the mucous membrane brought over the gaps. As a great deal of neuralgic pain was experienced after this, another section of the cheek was made in March, 1880, without benefit. When she came under Dr. Weir's charge the separation of the jaws amounted to one-quarter of an inch, with several strong internal bands stretching from one jaw to the other from the angle of the mouth outwards. A slight motion was perceived. The cicatrix in the cheek ran nearly to the posterior margin of the masseter, and was at its posterior part exquisitely sensitive, and was the focus of severe and constant neuralgic pain. On January 29, 1883, by an incision over the lower edge of the bone, an inch and a quarter of the left side of the lower jaw was removed, starting from the second bicuspid tooth of that side, and purposely leaving a slender cicatricial band attached to the mental end of the maxilla to act as a ligament for support, the painful cicatrix was dissected out. Complete relief followed the operation, and she was able to masticate readily within a week therefrom. Three months later a return of pain was felt in the mouth, supposed, at first, to be due to some carious teeth in the upper jaw, which were removed. It was, however, found to be due to the pressure of the distal end of the inferior maxilla from the persistent action of the pterygoid muscles. This portion of bone was eventually removed, and the patient has since been free from pain and able to eat well. It is now more than three years since the final operation and the jaws open to a normal width, and, thanks to the cicatricial band which was preserved, the chin keeps its median position.

Dr. Weir's second case was a boy of sixteen, who was admitted to the New York Hospital in October, 1882, having, nine years previously, received a lacerated wound over the left temporo-maxillary articulation, which resulted in obliteration of all motion in this joint. He had had, two years previously, his jaw opened under an anæsthetic by screws and forceps, but the relapse was speedy. Dr. Weir, under ether, removed a wedge-shaped piece of the lower jaw by an external incision from the second bicuspid tooth outward. The piece of bone removed measured one-half inch along its upper and three-quarters of an inch along its lower border, and gave perfect freedom of motion. On the third day he was able freely to move the jaw. The opening of the mouth is now normal as to extent, though there is slight underlapping of the lower incisors. Lateral mastication is perfect.

Dr. Little referred to a case in St. Luke's Hospital, in which, in 1863, he performed excision of the jaw for ankylosis. He watched the patient, had seen her within a year, and she continued to have perfect use of the jaw the same as she did when she left the hospital.

Dr. Pilcher, in connection with the first patient presented by Dr. Weir, reported a method which he adopted in the case of a little child, four years of age, whose jaws were locked together firmly, as a result of cicatrices produced by extensive ptyalism some years previously. There was a dense cicatricial mass which extended from opposite the canine teeth backward to beyond the molars, fastening the jaws together. Dr. Pilcher operated by making an incision from the angle of the mouth outward until he had divided freely the entire mass. He then dissected up the cicatricial tissue from the jaw, both above and below, and exsected it. He then took a flap from the mucous surface of the upper lip, and, having turned it backward, planted it upon the surface exposed along the upper jaw as the result of exsecting the cicatricial mass, and fastened it in position with sutures. He treated the lower lip in the same way, taking a flap from the lower lip and turning it back, and planting it upon the freshly exposed surface. He then brought the cheek together in such a manner that the edges of the mucous membrane of the flap above and below were nearly in apposition, and as a result of it he had a new mucous surface filling the space from which he had removed the cicatricial mass. There was promise of considerable relief of the original contraction. Most excellent union had taken place. It was perhaps a month since the operation was performed, and the child's condition was very satisfactory. The amount of recontraction which may take place is, of course, an uncertain quantity, but it had seemed to him that, with watchfulness and daily separation of the jaws, any slight tendency to recontraction due to cicatricial tissue which may have been left in the exsection, may be prevented. He mentioned it as possibly a method which might take the place of resection of the jaw.

Dr. Lewis S. Pilcher reported

TWO CASES OF MALIGNANT LYMPHOMA, WITH REMARKS.

Case I.—Peter H., aged thirty-seven years, a native of Sweden, cabinetmaker by occupation, of robust physique, first consulted me in the early part of November, 1880, in consequence of a large tumor occupying the right side of the neck. It had first been noticed by him less than a year previous to this date. It had developed rapidly, and now extended from the margin of the inferior jaw downward two-thirds of the way to the clavicle, and from the mastoid process forward to the median line of the neck, being bound down by the sterno-cleido-mastoid muscle, pushing the larynx over to the left of the median line, at times producing embarrassment of respiration, and difficulty in deglutition. I removed the tumor, which was composed of a series of enlarged glands, on the 13th of November. Microscopic examination, as made by Dr. N. B. Sizer, revealed simply hyperplasia of preëxisting glandular tissue. The recovery from the operation was rapid and complete, and the man returned to his vocation, as before.

At the end of two years, in the fall of 1882, he again consulted me on account of an enlargement of the inferior inguinal glands of the left side, which he believed to have been excited by the frequent pressure against the corner of his workbench to which they were constantly subjected while he was at work. This enlargement of these glands rapidly increased, so that by the first of the year 1883 the tumor seriously interfered with his locomotion. A marked impairment of his general health had also now become evident.

On the 27th of January, 1883, I removed this inguinal tumor, including, also, in the enucleation one of the external iliac glands; this was easily accomplished by prolonging the incision upwards and outwards in a curved direction upon the abdominal wall, and incising the deeper parts as for ligation of the external iliac artery. Union by first intention was secured throughout the operation wound, but the convalescence was protracted by attacks of severe pain in the abdomen; these were most severe at night; were not caused by, nor accompanied with, tympanitis; nevertheless, during the third week after the operation he was able to walk without fatigue or discomfort from his residence to my office, a distance of one mile.

During the next three months the pain in the abdomen became more marked and continuous, requiring the daily use of morphine to render existence tolerable. A tumor could now be detected within the abdomen, situated over and to the left of the lumbar vertebræ, and evidently formed by enlarged retroperitoneal lumbar glands.

Three months later the right inguinal glands had become so enlarged that they formed a tumor of some size. In the neck, likewise, on the side originally affected, below the mastoid process, at the angle of the jaw, and along the anterior border of the trapezius muscle, enlarged glands were visible. The patient was very desirous that these should be removed, and, at his earnest solicitation, both groups of enlarged glands were extirpated. This was done August 3, 1883. Union by first intention was secured in both localities, notwithstanding the cachectic condition of the patient.

Six weeks later a line of enlarged glands could be detected along the margin of the true pelvis on both sides.

Ten days later, September 27, 1883, my last examination of him was made. His anæmia, as evinced by pallor and increasing weakness, had become great. There was some œdema of face, most noticeable mornings, and marked œdema of the outer side of the left thigh and of the scrotum. Examination of urine gave negative results. There was no great, appreciable enlargement of the spleen. He suffered much from abdominal pain, requiring increased amounts of morphine for its control. He walked with difficulty. A few days later he sailed for Sweden, his native country, where after a few weeks' suffering, he died by exhaustion December 6, 1883.

From the first appreciation of any glandular enlargement to the time of death, about four years elapsed. This time is divisible into three periods:

1. A period of primary localized glandular disturbance extending over one year, and brought to an end by the first operation.

2. A period of quiescence of about two years. During this period the general health remained fair. He worked regularly at his trade, and supported his family, but yet it was with more effort and with less ability to endure than had been his former wont. There had taken place a very appreciable permanent impairment of his general strength.

3. A period of progressive anæmia, with diffuse glandular disturbance, extending through one year, and ending in death.

The chief medicinal agents that were used in the course of this case, in addition to the morphia already mentioned, were preparations of iron and of arsenic, but no advantage could be discovered to be derived from them at any time.

Case II.—J. R. T., aged twelve and a half years, a bright, studious, but somewhat delicate, lad, whose father had died of laryngeal and pulmonary phthisis, and whose maternal grandmother had died of cancer of the breast. For a number of weeks the boy had been noticed to be somewhat languid, and in his general bearing otherwise to evince depression. One of the most noticeable signs of this consisted in a stiffness of the neck with which he would frequently find himself affected on rising in the morning. Following upon this history he developed a croupy cough, which was most noticeable at night. This being considered as the result merely of a passing cold, was for a week or more treated by confinement to the house and by simple domestic remedies. Nevertheless, the cough became more continuous and paroxysms of severe dyspnœa had begun to occur at intervals, when I first was called to see him, on the 30th of January, 1882. His condition was then similar, in general, to that manifested in the earlier period of a severe attack of catarrhal laryngitis, presenting fever, loss of voice, painful, dry, frequent, smothered cough, differing in this one respect of its muffled character from the harsher and more resonant cough of laryngitis; breathing somewhat labored and accelerated, with occasional exacerbations of the dyspnœa. But, in addition, the gums were swollen and spongy, and the tonsils and the submaxillary glands were enlarged.

The remedies usually efficient for the relief of catarrhal laryngitis were used during the first week of my attendance without benefit, beyond the alleviation caused by opiates. Meanwhile the swelling of the gums continued to become more marked, until they rose above the level of the teeth and began to break down into spots of ulceration at many points.

The same ulcerative process began to manifest itself in the tonsils likewise, and the pain on swallowing and on coughing was such as to indicate that the larynx was also the subject of ulceration. The conditions of the mouth and fauces were such as to make laryngoscopic examinations out of the question. Now, for the first time, a general enlargement of all the lymphatic glands of the neck was noticed. These enlarged glands were not tender, nor was any one gland or set of glands greatly enlarged, the size of a hazel-nut, perhaps, being about that apparently presented by these glands. The general involvement of all these glands on both sides of the neck was such as to preclude the theory that these enlargements were due to the propagation of infection from the mouth or fauces, and to awaken in my mind the conviction that they were the expression of some general blood-infection. While, therefore, the local troubles of the mouth and larynx were treated by stimulating and detergent gargles, and by insufflations of iodoform, especial attention was directed toward antagonizing the evident general blood-dyscrasia. For this purpose, iodide of iron, cod-liver oil, and alcoholic stimulants were used. No effect upon the progressive march of the disease resulted from the remedies used. The ulcers in the mouth and fauces extended; the difficulty of swallowing increased; the croupy cough persisted, and was most harassing, while the labor of respiration was always marked. The condition of the glands remained unchanged, while pallor of skin and progressive debility marked the increasing impoverishment of the blood. No examination was made as to the condition of the spleen.

By the middle of the third week of my attendance the growing failure of the child's strength had reached such a degree that the gravest apprehensions as to a speedy fatal result were unavoidable. To what extent the undermining of the general powers might be due to the prolonged laborious respiration, and to the sufferings caused by the functional activity of the swollen and ulcerated larynx, could not be positively estimated, but, inasmuch as there was a possibility that the chief cause of the dyspnœa might be laryngeal obstruction, and nothing but good could come from diverting the respiratory current for a time from the larynx, I opened the trachea below the thryroid isthmus. This was done on the seventeenth day after the lad came under my observation. The operation was attended by persistent capillary oozing from the surfaces exposed by the incisions. This was finally controlled by uniting the edges of the tracheal incision and the skin incision on either side by sutures, thus accomplishing continuous pressure upon the raw surfaces. Only partial relief to the dyspnœa was afforded by the operation. Though the child rallied fairly after the operation, the breathing became rapid and shallow after a few hours, and he died quietly by asthenia fourteen hours after the operation. No post-mortem examination.

It is greatly to be regretted that the light which a post-mortem examination might have shed upon this obscure case was not obtained. I have but little hesitation, however, in classing it as a case of malignant lymphoma. The effect of the tracheotomy was to demonstrate the intrathoracic location of the respiratory obstruction. The frequency with which dyspnœa and cough are produced by the pressure of enlarged thoracic glands has long been recognized. Pressure on the recurrent laryngeal nerve may also have contributed to the spasmodic croupy attacks. The date at which the bronchial and other thoracic glands may have first begun to enlarge must remain uncertain, as a variable period may have been required to enable them to reach that stage at which obstructive and irritative symptoms ultimately produced by them declared themselves. In the history of the case it was noted that a sudden and general enlargement of the glands of the neck took place. That some enlargement of these glands had not existed prior to the date of their discovery I would not assert; the peculiarity and interest attaching to them lie in the fact that so many of them, and these so widely diffused, were all at once noticed to have become enlarged, without being either painful or tender.

The early prominence of the stomatitis in this case is of interest in connection with the statistics of Gowers, in *Reynolds's System of Medicine* (1870, v. 329, Art. Hodgkin's Disease), where, in analyzing a group of cases in which the first symptoms depended, not on the glandular enlargement, but on the accompanying blood state, the statement is made that in two of these stomatitis was the earliest symptom. The appearance of the swollen gums in this case was unlike anything else I have ever witnessed. They formed a dull, livid, spongy ruffle, in which the teeth were set, giving the impression to the eye of tissue having a low grade of vitality, so that the melting down at points into complete necrosis was quite in keeping.

The two cases which have been detailed, present the two extremes of chronicity on the one hand, and of acuteness on the other, that may be manifested by malignant lymphoma. A period of four years is far beyond the average time which intervenes between the first glandular enlargements and the final fatal termination, while a period of but little more than four weeks is quite unparalleled by any recorded cases of which I have been able to find mention. They both, however, present clearly marked these essential features: a progressive blood-deterioration, advancing steadily to a fatal termination, unaffected by remedies, and diffused, non-inflammatory glandular enlargements.

The differences of the accidents of the disease in these two cases were not greater than are often witnessed in other diseases which are recognized as being essentially of identical nature; as, for instance, tubercular disease of bone and of the meninges of the brain.

As to the etiology of malignant lymphoma, reflection upon the phenomena which attend its course leads me to put forth the hypothesis that the essential cause of the disease is a specific infecting microörganism, upon the growth and activity of which the blood-changes and the lymphatic glandular enlargements depend. The intensity and rapidity of the development of the primary symptoms must depend on many things, and especially upon the original resisting power of the individual. Upon the special group of glands that may be first, or most largely implicated in the localized gland-infection, will depend also many of the peculiar accidents of each case.

If, as is not improbable, each affected gland is, in turn, a new focus of active germ proliferation from which an increased dissemination of the special poisonous element is taking place, the early and repeated extirpation of the affected glands would be a rational procedure, but this only as an accessory measure to those more general germicidal or antiseptic measures that might help to purify the blood stream itself, if any such can be found.

DR. H. B. SANDS thought that, in the absence of any histological information, in one of Dr. Pilcher's cases, concerning the nature of the morbid growth, and in view of the striking difference in the clinical history of the two cases, there might be a reasonable doubt whether in both the character of the disease was identical. As he understood the term malignant lymphoma, it did not imply a peculiar abnormal structure, as is observed in carcinoma and sarcoma. The malignancy of the disease is characterized by its wide dissemination, and by the appearance of hyperplastic glandular tissue in some parts of the body where normally no lymphatic glands exist. He thought, therefore, it was fair to inquire whether the first of Dr. Pilcher's cases may not have been one of multiple lymphoma, and the second one of lympho-sarcoma, which is a truly malignant affection, characterized by much more rapid progress than is usually observed in cases of multiple or malignant lymphoma.

DR. PILCHER said that he had attached the word malignant to these cases rather with reference to the steady progress of the disease toward a fatal termination, without being affected in its course by remedies. The peculiarity of the cases called malignant lymphoma consisted in these glandular enlargements, in which nothing more was found than normal gland tissue, fibrous and cellular elements, hyperplasia of the ordinary gland tissue. The second case which he had detailed, he had reported with the special hope that it might be criticised because of its obscurity, and it was only by association with the various symptoms and conditions present that he was able to reach any satisfactory conclusion concerning its exact nature.

DR. BRIDDON thought the term malignant lymphoma had been attached to the disease, not so much on account of the histological elements present, as on account of the inveterate character of the affection clinically. He had never seen a case in which the disease ran its course in three or four weeks, and he should look upon the second case reported by Dr. Pilcher as one of glandular enlargement, secondary to ulcerative process going on in the buccal cavity.

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, November 3, 1884.

THE PRESIDENT, DR. D. HAYES AGNEW,
IN THE CHAIR.

DR. CHARLES NANCREDE exhibited a typical specimen of

PERINUCLEAR ABSCESS AROUND THE OSSEOUS NUCLEUS OF THE ASTRAGALUS,

removed from a child five years of age, who presented the ordinary symptoms of strumous osteitis of the bones of the foot, but there was nothing to indicate which bone was affected. There was lameness and gradual swelling over the calcaneo-astragaloid joint. The darting pains developed very early, showing, if an abscess were present, it must be very near the ankle-joint. The joint itself was not involved. About ten days before he operated, there was a severe chill, high fever, and sudden swelling of the ankle-joint, repeated chill, and the child was evidently very sick. Ten days later he operated and found the calcaneo-astragoloid joint involved and a perforation into the ankle-joint. He removed the whole astragalus and found a perinuclear abscess. There was only a small patch of inflammation on the ankle-joint, the appearance of which would indicate that it had developed since the rupture of the abscess.

The operation was done about a week ago. There were no unfavorable symptoms, and there is now nothing but a superficial line of granulation.

The **PRESIDENT** asked, What would be the effect of gouging in cases of this kind?

DR. NANCREDE said he did not gouge, because the ankle-joint was opened and ankylosis would have been the result, and that was all that could be obtained by excision. By gouging we could not be certain when we reached healthy bone, convalescence would have been slow and suppuration prolonged, while the result would have been the same. After gouging, the limb might have been a shade longer, but he questioned whether the result would have been any better. The cases which he had seen had been in a wretched condition; in some he had tried temporizing, but in these instances the patients died, but where thorough excision has been practised they have done well.

DR. KEEN made the following remarks upon a case of

AZOOSPERMISM

which came under his observation:

A gentleman, from Massachusetts, consulted me the other day on account of having no family. He is 40 years of age, and has been twice married. He is perfectly temperate, and has never had gonorrhœa or other genito-urinary trouble. The sexual feelings are very strong. The sexual organs were normally developed as far as could be determined from an external and rectal examination.

He had been married for the second time over a year ago, but in neither case had the wife become pregnant. In regard to the seminal fluid, he stated that in amount it was about a drachm; that it was glutinous, with more or less large masses of glutinous matter at the time of ejaculation. The specimen which the patient brought, about two hours after ejaculation, was thin and watery. Dr. Keen examined it very carefully under the microscope, and found a large quantity of granular débris, with a complete absence of spermatozoids. He had never had mumps, and the testicles were well developed. Dr. Keen had seen a number of cases of azoospermism following disease of the testicles, and the atrophy resulting from the metastasis of mumps, but he had never before seen a case of azoospermism in which the sexual apparatus and sexual appetite were so near normal.

DR. S. W. GROSS had seen several cases of azoospermism in which the history was very similar to that of the case described by Dr. Keen. The genital organs were healthy, and there had been no orchitis, no epididymitis—in fact, no affection of the genital organs. In all these cases, however, he found that the men indulged immoderately in sexual intercourse. It is a well-known fact, that the more frequently intercourse takes place, the fewer are the spermatozoids.

DR. KEEN had inquired as to the sexual habits before and after the first marriage. He had not, with the exception of a brief time, practised self-abuse. After his first marriage, his sexual relations were moderately frequent, but they were never immoderate.

CORRESPONDENCE.

ÇYSTIC DEGENERATION OF THE CHORION.

To the Editor of THE MEDICAL NEWS.

SIR: I was much interested in the report, contained in THE NEWS of the 8th inst., of a paper read by Dr. F. O. Marsh before the Cincinnati Medical Society, on "Cystic Degeneration of the Chorion." I say "much interested," because, in a practice of over sixteen years, I had my first case of *vesicular* mole about four months ago, although I have had three cases of *fleshy* mole.

As it would appear from the paper referred to, and the discussion thereon, that there is not yet a plethora of *data* upon this interesting subject, perhaps a brief report of my case may not be considered unworthy of a place in your valuable journal.

Mrs. P., 36 years old, married eighteen years, mother of seven children, the youngest being four years old, has always been a remarkably healthy woman. Menstruated regularly in May last, skipped the period in June, and "came round all right" in July, to use her own expression. The flow did not cease, however, as usual, but continued for two weeks, and becoming suddenly worse, I was summoned in haste. The flooding was excessive. I was shown a piece of membrane ½ by 1½ inch, which I was assured was the only thing expelled except clots, which I had no opportunity of examining. I was unable to introduce my finger within the uterus, and before leaving her I therefore placed a tampon in the vagina. The tampon was replaced twice before I could succeed in hooking my index finger around the mass within the uterus, which proved to be a bunch containing four cysts. There was no further hemorrhage, and no symptom of septicæmia, against which antiseptic precautions were taken at each removal of the tampon.

I would emphasize the following points of interest in this case for comparison with those brought out in Dr. Marsh's paper:

1. Absence of "strong emotional disturbance," of which I am thoroughly satisfied. 2. Absence of vomiting. 3. Absence of symptoms of uræmia. The urine was not tested, however. 4. Absence of any abnormal distention of the uterine cavity. It is possible other cysts were expelled before I saw her, but the attendants say not. 5. The brief period of gestation—probably not exceeding eight weeks.

F. W. Borden, M.D.

Canning, Nova Scotia,
Nov. 29, 1884.

NEWS ITEMS.

WASHINGTON.

(*From our Special Correspondent.*)

American Public Health Association.—The executive committee of the American Public Health Association, which was appointed at the annual meeting held in St. Louis in October last, met last week at the Ebbitt House, Washington, D. C., the chairman, Dr. Reeves (president of the Association) presiding, and Dr. Irving A. Walton, secretary. Eleven members of the committee were present.

Arrangements were completed for the thirteenth annual meeting of the Association, which will be held at Washington, D. C., the second Tuesday in December, 1885, and a local committee was appointed, with Dr. Smith Townshend as chairman.

Subjects were selected for competition for the Lomb prize essays as follows: 1. "Healthy homes and food for working classes;" 2. "Sanitary necessities and conditions of school life;" 3. "Disinfectants;" 4. "Life-saving appliances in certain occupations." The full text of the subjects as they are to be treated will be published at an early date. These essays are for prizes of $500 each, and the competition is not confined to members of the Association, but is open to all citizens of the United States.

The committee on disinfectants, consisting of Major George M. Sternberg, U.S.A.; Dr. J. H. Raymond, of Brooklyn; and Dr. George H. Rohe, of Baltimore, was authorized to prepare a preliminary report as soon as possible for publication, in view of the anticipated advent of cholera next year. It was decided to incorporate the Association at Washington, D.C., under the United States laws relating to the District of Columbia. The committee adjourned to meet in New Orleans next April.

CANADA.

(*From our Special Correspondent.*)

Amendment of the Ontario Medical Act.—The following are the most important of the proposed amendments of the Ontario Medical Act:

To provide for the proper payment of medical witnesses.

Actions for malpractice not to be introduced after one year from date of alleged malpractice; and the plaintiff to give security for costs.

The appointment of a taxing officer, who shall be a medical man, for all medical accounts in dispute in his district.

The adoption of a Code of Ethics by the College of Physicians and Surgeons of Ontario. The Council to have power to erase from register the names of individuals who violate the Code.

Appointment of United States Inspector at Paris.—The Vice-Consul General at Paris, in a dispatch, states that, pursuant to instructions, he has appointed Dr. Warren Bey as Medical Inspector to aid in discovering the departure of refugés or their baggage for the United States. Dr. Warren Bey generously offers to make no charges for his services.

Health of Cuba.—Dr. D. M. Burgess, Sanitary Inspector, Marine Hospital Service, in his report to the Surgeon-General, dated the 4th inst., states that there were five hundred and seventy-six deaths in Havana during the month of November. There were nine deaths from yellow fever, all occurring among private persons or sailors.

Previous to the past two months, the city garbage (basura) had been taken nightly to a railroad in the suburbs, and by freight cars carried about forty miles into the country, and there used to enrich the soil of worn-out sugar estates; but since that time it is dumped in fields not outside of the city limits, and scarcely a mile from the centre of the city. It there emits a most offensive and sickening odor; and as these fields are on either side of the road which goes to the city cemetery, thousands of persons are obliged to inhale it. It is noticeable that since the garbage has been disposed of in this manner, flies have enormously increased in number.

Surgeon P. H. Bailhache, Marine Hospital Service, in charge of the Purveying Division in Washington for the past five years, has been ordered to Philadelphia for duty.

Prof. Grawitz.—We learn that Prof. Grawitz has declined the appointment of Professor of Pathological Anatomy in Bellevue Hospital Medical College, and that he has just been elected Professor of Pathology at Greifswald.

A Bill to Establish a National Board of Health.—The following bill has been prepared by a Committee of the Conference of State Boards of Health in session in Washington last week:

A bill to amend an Act entitled "An act to prevent the introduction of contagious and infectious diseases into the United States, and to establish a National Board of Health."

Be it enacted, by the Senate and House of Representatives of the United States of America in Congress assembled, that an Act entitled, "An Act to prevent the introduction of contagious and infectious diseases into the United States, and to establish a National Board of Health," approved March 3, 1879, be so amended as to provide that there shall be established a National Board of Health, to consist of one member from each State Board of Health now established, or which may be hereafter established in the United States, to be appointed by the President and confirmed by the Senate, whose compensation, when actually engaged in the performance of duty under this act, shall be ten dollars per diem each, and reasonable expenses. This board shall meet in Washington within ninety days after the passage of this act, and shall meet in Washington annually, and in case of emergency upon the call of its chairman and secretary, or upon the extraordinary call of the Presiden. of the United States, as hereinafter provided.

The officers of this board shall be a chairman and secretary. The secretary shall be the executive officer of and *ex-officio* a member of the board, and shall devote his entire time to the duties of the office, and may be removed for cause, at any regular meeting of the board, two-thirds of the full board voting therefor, and shall receive such salary as may be determined by the board. The chairman, with six other members, representing the various geographical divisions of the country, shall constitute the executive committee of the board, to be elected at the first meeting of the board, and at each annual meeting thereafter; and said committee shall, and is hereby authorized to, exercise such powers as may, from time to time, be conferred upon it by the board.

SECTION 2. The duties of this board shall be, and it is hereby authorized and given power, to make or cause to be made such investigations, at any place within the United States, or at any foreign port or place, and to collect information upon all matters relating to the public health, and to frame such rules and regulations as may be necessary for the government of the quarantine service of the United States; and all the power and authority now provided by law, or which may be provided by law, for the control and protection of the public health of the United States, shall be and are hereby vested in said board, except as to the special authority vested in the President of the United States under the provisions of this act. The rules and regulations of this board shall severally be executed, under the direction of this board, through such departments of the Government, or other officers, as the law may prescribe or the President may designate.

This board shall coöperate with and, so far as it lawfully may, shall aid State and local boards of health in the enforcement of the rules and regulations of such boards, to prevent the introduction of contagious and infectious diseases from foreign countries into the United States, and into one State from another.

SECTION 3. It shall be the duty of this board to make such rules and regulations as are necessary to be observed by vessels at ports of departure, where such vessels sail from any foreign port or place to any port or place in the United States to secure the best sanitary condition of such vessel, her cargo, passengers, and crew, and to prepare from time to time for the consular officers of the United States, and for the medical officers serving under this act at any foreign port, and otherwise make publicly known such rules and regulations which, when approved by the President and issued by the Department of State, and posted in the office of the consul or other representatives of the United States at such foreign ports for at least ten days, shall be enforced by the consular officers and agents of the United States.

SECTION 4. It shall be unlawful for any vessel from any foreign port or place to enter any port in the United States, except in accordance with the rules and regulations made in pursuance of this act, and of the rules and regulations made under State or municipal authority; and any such vessel which shall attempt to enter any port of the United States in violation thereof shall be liable to process in the proper district court of the United States, and, upon conviction, shall forfeit to the United States a sum, to be awarded in the discretion of the court, not exceeding $1000, which shall be a lien upon such vessel to be recovered, upon proceeding in the proper district court of the United States, in accordance with the rules and laws governing cases of seizure of vessels for violation of the revenue laws, and in all such cases the United States Attorney for such district shall appear on behalf of the United States; and all such vessels shall obtain, from the consular or authorized medical officer at the port of departure, a certificate in duplicate setting forth the sanitary history of said vessel, and that it has in all respects complied with the rules and regulations of this board, made in pursuance of this act for the government of such vessels; and, before granting such certificate, such consular or medical officer is required to be satisfied that the statements therein made are true; and, upon the request of this board, the President of the United States is hereby authorized to appoint proper medical officers, to serve in the offices of the consuls at any such foreign port, to make the inspections and give the certificates herein required.

SECTION 5. Such vessels shall observe all rules and regulations made by this board, in pursuance of this act, in regard to the inspection, disinfection, and isolation of the same, upon its arrival at any port in the United States, and for the treatment of persons and cargo on board, so as to prevent the introduction of contagious diseases into the United States, and it shall be unlawful for any vessel to enter such port, to land its passengers, or discharge its cargo, except upon a certificate, from the health officer of such port, that such rules and regulations have in all respects been complied with.

SECTION 6. In the event of any sudden emergency, threatening the importation of contagious or infectious disease into the United States from any foreign country, the President of the United States is hereby authorized and required, in his discretion, to adopt and make known forthwith by public proclamation, such measures as may meet the emergency, either by suspending the introduction into the United States, by land or sea, of any specified merchandise calculated to be a vehicle for the communication of contagion, or by prohibiting the entry into the ports of the United States of vessels coming from infected countries or having contagious or infectious disease on board. And in case the President shall at any time exercise the authority hereby conferred upon him, he shall, at or before the time of issuing such proclamation as aforesaid, convene the

National Board of Health, to meet at Washington in special session within ten days from the date of such notice of convention, and the said board shall thereupon advise such measures as it may deem sufficient to meet the emergency; and, upon the taking effect of such measures, with the approval of the President of the United States as herein provided, the President's proclamation aforesaid shall cease to have effect. It shall be the duty of this board at all times to give prompt attention to any question in sanitary science which may be submitted to it by the President.

SECTION 7. It shall be the duty of the Department of State to obtain, from the consular officers at foreign ports or places, all available information in regard to the sanitary condition of such ports and places, and to transmit the same to this board; and it shall be the duty of this board to obtain from the State and municipal health authorities throughout the United States, and from all other available sources, weekly reports of the sanitary condition of ports and places within the United States, and reports and other matters relating to climatic and other conditions affecting the public health, and it shall prepare, publish, and transmit to State and other authorities, and other proper persons, weekly abstracts of such reports, consular reports, and other useful information relating to the public health; and it shall make to the President, for transmission to Congress, an annual report of its transactions, with such recommendations as it may deem important to the public health; and the necessary printing of the board shall be done at the Government Printing Office, upon the requisition of the secretary of such board, in the same manner, and subject to the same provisions, as other public printing for the several departments of the Government.

SECTION 8. The President of the United States is authorized, when requested by this board, and when the same can be done without prejudice to the public service, to detail officers from the several departments of the Government, for temporary duty, to act under the direction of this board in carrying out the provisions of this act, and such officers shall receive no additional compensation, except for actual and necessary expenses incurred in the performance of such duties.

SECTION 9. To meet the expenses incurred in carrying out the provisions of this act, the sum of $500,000, or so much thereof as may be necessary, is hereby appropriated, to be disbursed under the direction of the board; and the board shall have authority to appoint such disbursing agents as it deems necessary, who shall give bond, as in other cases, for the faithful performance of their duties.

SECTION 10. All acts and parts of acts in conflict with any of the provisions of this act shall be, and are hereby, repealed.

OBITUARY RECORD.—FREDERICK AKBAR MAHOMED, M.B., F.R.C.P., died at his residence, in London, on November 22, of typhoid fever. Dr. Mahomed was the author of a large number of contributions, to journals and societies, on medical subjects, some of the most valuable being on questions relating to kidney diseases, especially Bright's. He has held several hospital positions. He was in the thirty-sixth year of his age when he died.

NOTES AND QUERIES.

TESTING VALVULAR INSUFFICIENCY.

To the Editor of THE MEDICAL NEWS.

SIR: Will you kindly allow me to make a criticism upon Dr. Meigs's method of testing the sufficiency of the mitral and tricuspid valves, as detailed in THE MEDICAL NEWS of November 15th? Allowing, as we must, that the method in vogue is an unsatisfactory one, yet is there not danger of doing more harm than good by Dr. Meigs's plan of washing out the ventricles and removing clots before an incision has been made into them? One certainly runs the risk of tearing off parietal or valvular thrombi, or even vegetations, by such means, before one has had an opportunity of examining with the eye the lower surface of the aortic cusps and the inner walls of the ventricles.

Moreover, as it is in connection with cases of suspected heart disease that Dr. Meigs has felt especially dissatisfied with the old method, should not one take pains under such circumstances *not* to disturb the cavities of the heart (beyond an incision) until an ocular examination has been made? There is certainly room for improvement over the method of examining the heart as taught by Virchow and his pupils, but at the present time his method is apparently the best.

W. W. GANNETT, M.D.,
Assistant in Pathological Anatomy,
Harvard Medical School.

110 BOYLSTON ST., BOSTON, Dec. 7, 1884.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 9 TO DECEMBER 15, 1884.

HAMMOND, JOHN F., *Colonel and Surgeon.*—Retired from active service, by operation of law, on December 7, 1884, under provisions of Act of Congress approved June 30, 1882.—*S. O. 287, A. G. O.*, December 8, 1884.

MCKEE, J. C., *Major and Surgeon.*—Leave of absence still further extended one month.—*S. O. 288, A. G. O.*, December 9, 1884.

LAUDERDALE, JOHN V., *Captain and Assistant Surgeon* (Fort Sully, Dakota Territory).—Granted leave of absence for one month, to take effect about December 20, 1884.—*S. O. 146, Department of Dakota*, December 9, 1884.

COMEGYS, E. T., *Captain and Assistant Surgeon.*—Granted leave of absence for one month.—*S. O. 234, Department of Missouri*, December 26, 1884.

PORTER, JOSEPH Y., *Captain and Assistant Surgeon.*—Sick leave of absence extended four months, on surgeon's certificate of disability.—*S. O. 286, A. G. O.*, December 6, 1884.

KANE, JOHN J., *Captain and Assistant Surgeon.*—From Department of the East to Willett's Point, New York.—*S. O. 286, A. G. O.*, December 6, 1884.

BANISTER, J. M., *Captain and Assistant Surgeon* (Fort Adams, Rhode Island).—Granted one month's leave of absence, on surgeon's certificate of disability.—*S. O. 251, Department of the East*, December 9, 1884.

PILCHER, JAMES E., *First Lieutenant and Assistant Surgeon.*—Ordered to Fort Custer, Montana Territory, for duty. Order assigning him to duty at Fort Abraham Lincoln, Dakota Territory, amended.—*S. O. 145, Department of Dakota*, December 8, 1884.

GRAY, CHARLES C., *Major* (retired).—Died at Geneva, New York, November 22, 1884, instead of November 26th. as heretofore announced.—*Circular Orders, A. G. O.*, December 8, 1884.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

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ORIGINAL ARTICLES.

REMARKS ON EXTIRPATION OF THE KIDNEY, WITH CASES OF NEPHRECTOMY FOR PYONEPHROSIS, AND NEPHROTOMY FOR RUPTURE OF THE KIDNEY.[1]

BY ROBERT F. WEIR, M.D.,

SURGEON TO THE NEW YORK HOSPITAL; PROFESSOR OF CLINICAL SURGERY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

IN September of last year a woman, aged 23, came under my charge at the New York Hospital for a tumor in the right hypochondriac region, of which she gave the following history: In 1876, seven years previously, she had a severe and obstinate attack of cystitis. This lasted, in spite of ordinary treatment, for two years, when, at the Roosevelt Hospital, a vesico-vaginal opening was made to place the bladder at rest. This gave such relief that at the end of a year she had the opening closed by an operation, believing herself fully cured of the cystitis.

But this proved not to be true, for the symptoms reappeared, and six months later the wound was reopened. In September, 1880, the fistula, which had become contracted, was enlarged at the Woman's Hospital. After remaining there for some time, with moderate improvement, she left that institution, but came back again in September, 1882, the irritability of the bladder being worse, if possible, than ever before. The urethra at that time was button-holed, as it is called by Dr. Emmet; in other words, an incision was made along the lower floor of the urethra, the superabundant mucous membrane drawn out, and removed. But shortly after this she had such severe pain that it led to an examination under ether for stone. No calculus, however, was found in the bladder, but it was observed for the first time that there was a tumor in the right upper part of the abdomen. Thinking this was possibly due to the presence of a calculus in the ureter, a sound was introduced into the right ureter through the vesical fistula, which had been further enlarged, but with negative results. I believe that an operation for removal of the kidney was then suggested, but the patient went out of the hospital, and afterward came under the care of Dr. Peters, at St. Luke's Hospital, where an exploration with the hand in the rectum was made, and also an endeavor to catheterize the ureters. No positive evidence was obtained by these examinations. When the patient entered my ward there was felt on the right side of the abdomen a smooth, but somewhat painful, tumor, which stretched from the edge of the ribs nearly to the crest of the ilium, and which measured some four inches in its transverse diameter. This was believed, from its situation and history, to be a kidney in a condition of pyonephrosis. Aspiration having failed in extracting any pus, and in consequence of the report furnished that the previous rectal examination had gone against the renal nature of the tumor, the patient was again etherized, and, by the small and skilful hand of Dr. Sabine, the regions of the kidneys carefully examined, and the tumor proved to be, as thought, a diseased kidney. At the same time, by strongly holding aside the large fistula in the bladder, the mouths of the ureters could be seen and explored their whole distance by flexible metallic sounds. There was no calculus to be discovered, and while the urine from the affected kidney was flocculent from the admixture of pus, that from the left or sound side was clear and normal. On each side it was voided in intermittent jets.

The patient's general condition was fair, though her annoyance from the continued urinary leakage was great. During the time she was kept under observation before the operation, the urine was repeatedly examined, had a satisfactory specific gravity and absence of casts. This increased the confidence that the left kidney was in a good condition, in spite of the statement that she had had several convulsions during the past three years. During the two weeks prior to the operation, her condition began to fail, less perhaps from inflammatory than from mental causes. She was urgent for surgical interference, though aware of the danger of the procedure. An operation possessed no terrors for her, as she had already been anæsthetized twenty-three times since her cystitis began. Nephrectomy was performed November 3d, under antiseptic precautions, by a lumbar vertical incision, starting just below the twelfth rib, three inches from the spine, and running to the crest of the ilium. A second transverse cut was made from near the top of the vertical one, outwards along the edge of the ribs nearly five inches long. This gave large access to the kidney without opening the peritoneum, which was seen at the outer part of the transverse incision, but sunk out of the way by the semi-prone position of the patient. On exposing the dense fatty capsule, it was scratched through and the kidney partly brought into view. An aspirator showed the situation of an abscess, which was opened to determine whether simple nephrotomy with drainage would suffice. Exploration showed that it was a small cavity, and apparently others existed which did not open into the first one, and extirpation was therefore proceeded with. It was at once experienced that the fat capsule was intimately adherent to the kidney. The true fibrous envelope of the organ was therefore split open, and enucleation accomplished with rapidity everywhere except over the anterior surface of the kidney, where the peritoneum was felt to be very thin. The pedicle was finally reached, and a loop of strong ligature silk cast around the kidney, and carried to its base and tied, after which the kidney was removed. A gush of venous blood ensued, which was only partly arrested after repeated seizures of long forcipressure forceps, and was finally controlled by stopping the wound full of sponges and turning the patient on her back. The shock was profound, and all the measures to produce reaction were resorted to, such as heat, stimulants, the application of Esmarch's bandages to the limbs, and saline transfusion. The latter, repeated twice to a total amount of twenty-two ounces, gave rise at first to great improvement in consciousness, pulse, and warmth of body, and up to 10 o'clock P.M., she appeared to rally, but then failed steadily, and died at 2 A.M., ten hours after the operation.

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[1] Read before the New York Surgical Society, December 9, 1884.

The autopsy showed that the hemorrhage came from a vein of considerable size, one and a half centimetres above those secured by the ligature and forceps. The fibrous capsule of the kidney was so closly adherent to the condensed fat without that it could only be removed by a close dissection. The peritoneal cavity was not invaded. The left kidney was larger than normal, and, microscopically, the convoluted tubes contained a good deal of fat in their epithelial cells. This change was quite general.

The removed kidney, slightly larger than natural, was riddled with abscesses, which did not communicate one with the other, and only partially so with the pelvis. There was no serviceable kidney-tissue to be found in the organ.

Remarks. The operation of nephrectomy, first resorted to intentionally by Simon[1] in 1869, has now been performed, as far as I have been able to investigate, some 152 times,[2] with a gross mortality of seventy-six deaths, or fifty per cent. Nor has the mortality decreased in the last fifty cases, as might have been expected. It is, therefore, yet one of the gravest operations in surgery. It has been employed for the removal of healthy as well as for diseased kidneys. In the former category may be placed the extirpation for urethral fistulæ, for floating kidney, and for laceration of the organ. In the latter the lesions may be embraced generally under the heads of obstructions, suppurations, and tumors of the kidney.

For wounds or lacerations the kidney has been extirpated five times (Brandt, Marvand, Cartwright, Rawdon, and Bruns), with two deaths. For fistulas communicating with the ureter, and situated either in the vagina or uterus, or communicating externally, there have been reported nine cases, with two deaths. For a floating kidney sixteen cases are recorded, with six deaths—fourteen by laparotomy and two by the lumbar incision. The mortality of this affection is so high, that this would of itself discourage the procedure for an affection which of itself does not threaten life. But since the introduction, by Hahn, of the plan of fixing the loose kidney after exposure by a vertical lumbar incision, by stitching its capsule to the muscular or skin tissues, the use of nephrectomy for this reason will probably be abandoned. The operation of nephrorrhaphy has been performed sixteen times, with but one death, due to a fault of the operator, and with a generally satisfactory result. In the case operated on in this way by myself, and published in *The New York Medical Journal*, February 17, 1883, the subsequent history was encouraging, though several months afterward the patient had a severe attack of jaundice and some symptoms indicative of a perinephritic inflammation. These passed off, and she has recently reported herself as much benefited by the operation. The appreciation of this method is, however, not yet definite, since too short a time has elapsed to determine whether the fixation produced is truly a permanent one.

Although hydronephrosis is one of the conditions for which extirpation of the kidney is done, yet in the excellent remarks of Billroth[1] on the operation (from whom in part my data are obtained), the only diseases demanding the operation are neoplasms and suppuration of the kidney. It is significant that nearly one-third (12) of the cases of nephrectomy for hydronephrosis have been accomplished through an error of diagnosis, being mistaken generally for ovarian cysts.

The death-rate, whether from this cause or from the inherent difficulty of the removal of a hugely distended kidney, is very large, for, in the twenty-one cases collected by Staples[2] in which nephrectomy was employed, there were by laparotomy seventeen cases, with eleven deaths, and by the lumbar incision three cases, with one death. In contrast with this mortality are the striking results obtained by incision and drainage in sixteen cases of this affection, collected by the same observer, in which were fourteen cases of recovery and two deaths. In some of the recoveries, it is true, fistula resulted, but were reported as diminishing or as not troublesome. In this connection I would refer to the case of hydronephrosis in which nephrotomy was successfully used by me, and which was presented to you by Dr. Peters in his paper on hydronephrosis[3] before this Society, February 28, 1882.

Bergmann has also stricken out hydronephrosis from the list of diseases requiring nephrectomy for their treatment.

From the foregoing remarks, it will be seen that the principal interest connected with the operation of extirpation of a kidney is associated with tumors and suppurative lesions of that organ. In respect to the nature of the neoplasms for which the kidney has been removed, it is found, from the twenty-seven cases collected in Homan's[4] article on the sub-

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Wolcott, of Milwaukee, was perhaps the first to remove the kidney, in 1860, for a carcinoma. The patient died on the fifteenth day.

[2] The original collection of 100 cases by Harris, in the Amer. Med. Journal, July, 1882, was augmented in Bolz's Thesis to 121 cases, which Billroth further increased to 132. Subsequently S. W. Gross collected 143 cases, to which I have added three performed by Dr. Thomas, two by Thornton, and one each by Boothby, Halsted, Morris, and myself, which make the total 152.

[1] Uber Nierenextirpation. Wien. med. Wochenschrift, Nos. 24, 25, 26, 1884.

[2] Hydronephrosis. A study of seventy-one cases of that lesion, by G. A Staples. Journal American Med. Association, April 19, 1884.

[3] Medical Record, May 6, 1882.

[4] Boston Med. and Surg. Journal, January 24, 1884.

ject, to which I have been able to add two cases by Thomas, and one each by Vercelli, Little, and Halsted, making a total of thirty-two cases, that there have been sarcoma eighteen times, carcinomata eight times, adenoma once, fibroma once, and of doubtful nature three times. Twenty-two of these cases died, or nearly sixty-nine per cent. This mortality, so much greater than in any other lesion for which nephrectomy has been performed, will attract attention at once, and the inquiry will naturally arise, What has been the outcome even in the successful cases? This point has been well considered by S. W. Gross in The Medical News for June 9, 1883, who states that the disease returned in 31.5 per cent. of the cases, and that the average duration of life was rather less than twenty-four months. Taking this fact, in connection with the statement of Rohrer and Roberts, that the average duration of life without operation is two years and half for adults, and of Dickinson, that in nineteen autopsies of malignant disease of the kidney, in sixteen cases were found secondary growths, the operation of nephrectomy is at first sight to be discouraged. It may be, however, somewhat premature to pronounce upon this question dogmatically until experience is increased, especially since two of the cases remained well after the operation for twenty-one and thirty months respectively. It certainly seems correct to urge that only small growths should be submitted to the operation, on account of the risks of hemorrhage and of relapse which more decidedly belong to the larger tumors, and from the fact that in such cases the safer lumbar incision can be employed, for, in thirty-two cases, twenty-five were treated by the abdominal incision, of which twenty died, and seven by the lumbar incision, of which two died.

By the foregoing process of exclusion, it is fairly well shown, I think, that the principal, if not the sole, condition in a diseased kidney that justifies a nephrectomy is a suppurative process. Under this head are embraced abscesses of the kidney, whether single or multiple, or whether in the pelvis or in its substance, or simply pyelitis from cystitis or from renal calculus, etc.

Of such cases, Billroth, quoting from Bolz, gives forty instances, with eighteen deaths. This I have been able to increase to forty-seven cases; but from a private communication from Dr. S. W. Gross, I can now present a total of fifty-eight cases, and from an analysis of this number I shall endeavor, if possible, to furnish a due appreciation of some of the mooted points connected with this domain of renal surgery.

The first, and probably one of the most important considerations in connection with the operation of nephrectomy, is the question of not only the existence of a second kidney, but also of its condition. Given abundant pus, with certain renal elements in the urine, and even these may be utterly absent, if the abscess does not communicate with the pelvis of the kidney. To which kidney do these characteristics point? We may not always have a tumor to determine this—in this notably in some instances of renal calculi. But even though a latero-anterior tumor present itself, yet the status of the second kidney should be determined if possible. Repeated examinations of the urine, with absence of casts and epithelium, may contribute toward a certainty; but since we find even with a presumably sound kidney so frequently suppression of urine following a nephrectomy (possibly due to a weakened heart from shock), it is not to be wondered at that endeavors have been made in various ways to arrive at positiveness in the solution of this difficult point. One of the greatest arguments made in favor of the abdominal section is the ease with which the existence and general condition of a second kidney are thereby determined. This is a serious consideration, and is brought home to us, for, in the cases of nephrectomy performed in this city, viz.: Peters, Wright, Wyle, Polk, Lange (two), Thomas (three), Halsted, and my own—in all eleven cases, with nine deaths—in two there was but a single kidney (Polk's and Lange's). In the first there was congenitally but one kidney, and that abnormally situated in the iliac fossa, as in the specimen of a left kidney, the right being normal, which I can now show you, which was removed from a cadaver by our pathologist, Dr. Peabody, who states that the anomaly is the only one met with by him in over two thousand post-mortem examinations. The single kidney is found about once in five thousand bodies. Hence such a surgical complication can fairly be disregarded.

In Lange's case of tumor of the kidney, the other kidney was found to have been converted by previous changes into a shrivelled caseous cyst.

Undoubtedly the abdominal incision would have permitted the avoidance of this surgical error, but when we reflect on the rarity of such complications, and on Bergmann's statement that in forty cases of nephrectomy for pyonephrosis only once was the other kidney damaged enough to be useless, and also on the mortality that has followed this method of operation for suppurative lesions of the kidney, we are forced to look about for other means than laparotomy for help in this connection. This mortality is as follows: Of the 58 cases referred to, 31 recovered and 27 died; 16 of these were treated by the abdominal incisions, with 10 deaths, or a mortality of 61.5 per cent., and 42 by the lumbar incision, with 17 deaths, or a mortality of 42.8 per cent. Separating these cases still further, it is found that 14 of them were for calculous pyelitis, with 4 deaths, and that of this number only 1 was treated by the abdominal section, with recovery. This shows clearly that, unless as was present in this case (Wright's), the diseased kidney was at the same time a floating or abdominal kidney, the lumbar incision is by all odds to be preferred, not only because it is safer, but because it also permits the simpler extraction of the calculus and with less risk from the possible urinary fistula that may result. Taking, now, this form of kidney lesions from the comparison of the abdominal and lumbar modes of nephrectomy, we further find in the 44 cases remaining that the abdominal incision was employed 15 times with 10 deaths, and the lumbar 29 times with 13 deaths, again showing the superiority as regards mortality of the posterior or extraperitoneal incision. It is true that a wonderful success has been shown by Thornton in 10 nephrectomies of all kinds by the anterior incision without a single fatal result, and Tait has also from a smaller number given his authority in favor of the method; but, on the other hand, it is to be said that a number of these cases were errors in diagnosis and unintentionally attacked; many were hydronephroses, some were tumors, and but few suppurative lesions. Czerny, who of all surgeons, has had the largest experience, having removed 18 kidneys, strongly urges the advantage of the lumbar incision; and Billroth, in comparing the two methods, advocates the posterior operation, which, he says, should be used, moreover, when "in doubt." The conclusion is therefore evident that for large tumors, which in my judgment negative the operation, and where not only the size but the amount of hemorrhage is to be thought of, the abdominal method is more favorable; but for small tumors, or for pyonephrosis of all kinds with, in the last class of cases, the risk, always great, of their rupture and infection of the peritoneal cavity, this incision is not to be selected. In addition to these reasons, there is another which has recently been set before us by Lucas[1] in his excellent paper on this subject, that many cases of suppurating kidney can best be treated after their exposure by the lumbar method, by incision and drainage, and after these measures have failed to cure the patient, then extirpation can be effected with much less risk to life. He gives six cases, of which all recovered, in which nephrectomy was done in this manner. I confess that until the logic of his statistics and personal observations had convinced me, I had entertained a reverse idea from an experience obtained in Roosevelt Hospital in 1878. I had then a renal tumor to deal with on the left side, which, after exposure by a lumbar cut and aspiration, followed by an incision to evacuate a large amount of matter, was treated by drainage, a consultation of my colleagues having decided against nephrectomy. The patient did well for a while, but eventually succumbed to a subperitoneal phlegmon, which started from the kidney and descended to the pelvis. I have since watched the progress of two sinuses formed from similar kidneys, and they have each completely recovered without nephrectomy, and last week nephrotomy and drainage was done in a similar condition by my associate, Dr. Abbe, with so far satisfactory results. All these cases tend to present the claims of a lumbar incision in strong light. The question which therefore we come back to is whether the determination of the existence and condition of the second kidney can be reliably arrived at. This is truly not easily answered.

Tuchmann was one of the first to continue and employ an instrument like a lithotrite, which was intended to occlude at will one of the ureters from within the bladder. It failed to work. Later when this question obtruded itself in the minds of surgeons, Glück suggested that a preliminary incision should be made in the loin down to the diseased kidney, and its ureter clamped while iodide of potassium was administered, and the urine of the other kidney was extracted from the bladder and tested for iodine. I do not know that this procedure was ever put into practice. Lange suggested an incision over the sound kidney to permit a digital examination of it. Catheterization of the ureters, practicable though difficult in the female, has been called into use, and in that sex affords some hope of certainty. In the male, however, unless through a perineal opening to guide the finger and catheter, the chances are much against its efficiency. Polk,[1] in his endeavors to avoid a repetition of his case, has devised a clamp, one blade of which is to be passed into the male or female bladder, and the other into the rectum, so as to compress the ureter between them. This seems rational, and may yet prove of service, though in the male, as for catheterization of the ureters, a perineal opening would probably be necessary. Struck by the efficiency of Davy's rectal rod, in 1882, in controlling the circulation of the iliac artery in an amputation at the hip-joint, I thought by broadening this rod a little so as to compress more space that the ureter might at the same time be occluded; and it has proved satisfactory in the single case in which I have yet employed it. In a recent number of the *British Medical Journal* is an account from Mr. Davy himself, in which he states that he suggested this application of his rod in 1873, and that he has recently used it with success.

Another expedient which struck me yet more favorably is that presented by Dr. H. B. Sands, and is based upon his experience of compressing the iliac artery for over an hour with the hand in the rectum. This surgeon advises that the same means be used to obliterate temporarily the ureter, while the secretion from the other kidney thus separated is collected by a catheter in the bladder and examined. Unfortunately for absolute accuracy, the ureter is so soft and yielding as not to be readily recognized by the fingers as it crosses the edge of the pelvis, yet several trials on the cadaver have shown me that in every instance compression of the artery with two or three fingers at the same time occludes the ureter. This method has another great advantage, which is this, that unless the narrowing of the rectum, which occasionally is met with, is present, the hand, if small enough, *i. e.*, less than 8.5 inches in circumference, can be introduced up to the sigmoid flexure, and thereby be allowed sufficient excursion to permit reaching the lower portions of the kidney on each side.

Reference must also be made to the device of Silbermann,[2] who introduces through a large catheter little rubber bags, which are subsequently filled with quicksilver by a syringe, and are intended to plug by their weight the mouths of the ureters. I have not been able to obtain any good results from this instrument, which is now shown to you.[3]

In a doubtful case, not otherwise to be solved, an exploratory or small abdominal incision as advised by Tait could be made. Billroth, it will be remembered, made such incisions twenty-seven times without harm in plyoric cancer, by which he determined the inoperable nature of the disease. The following cases of abscess resulting from laceration of the kidney illustrate the advantage of this procedure.

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[1] On the Surgical Diseases of the Kidney, and the Operations for their Relief. R. Clement Lucas, British Med. Journ., Sept. 29, 1883.

[1] New York Medical Journal, February 17, 1883.

[2] Berl. klin. Wochenschrift, No. 34, 1883.

[3] Silbermann shut off the ureter 27 times in the 10 women and 5 men upon whom he employed his instrument.

Laceration of Kidney; Abscess; Nephrotomy; Recovery.—Mary S., a young married woman, aged 26, was admitted October 6, 1884, to the New York Hospital; with the history of a miscarriage in May last, with persistent uterine hemorrhage until August. During this time she had had repeated attacks of inflammation in the abdomen, the last of which in August confined her to the bed. After this she was well until her last menstruation, September 15th. After her usual flow had lasted five days she began to have fever with nausea and pain in the abdomen. She was admitted at first to the medical division of the hospital, where a tumor was discovered just above the right ilium, into which a hypodermic needle was inserted and a syringeful of pus withdrawn. Her temperature ranged from 100° to 103°, and her urination was frequent and painful, and microscopically contained pus, casts, and blood. On interrogation she positively denied receiving any injury. When first seen the tumor extended from the edge of the liver, whose dulness was continuous with that of the tumor to nearly the crest of the ilium, and in its transverse diameter it was nearly five inches broad, painful on pressure, smooth and resisting. A hypodermic needle failed on a second trial to extract anything but pure blood. With the history given the nature of the tumor was felt to be doubtful. As exploration per vaginam disclosed the parts uninvolved, it was determined to delay until the evidence of suppuration was given by aspiration or otherwise. Although her temperature range was, as before, as high as 103°, her general condition was comfortable. Three days later another puncture in a different locality resulted in the same extraction of blood, but on the fifth day pus was obtained by the same test, the urine being, during this time, nearly normal in character. She was etherized, and in the class of students present was the patient's physician, who furnished me the important detail of a kick received by her some ten days prior to her admission to the hospital, from a person whom she was unwilling to implicate, whence her repeated denials when questioned. After the injury there was for two days perceptibly bloody urine.

In the hope of the abscess being a perinephritic one, an exploratory incision was made over the outer edge of the tumor between the middle of the crest of the ilium and the ribs, so that if it were such it might be possible to keep behind the peritoneum, and if it were not, that the benefit of an ordinary abdominal exploratory section might be enjoyed. Before the peritoneum was fairly reached the wound permitted a conclusion against an abscess of any size exterior to the kidney, and the finger was therefore carried into the abdominal cavity, and the enlarged, and in spots softened, kidney easily and quickly recognized. The abdominal wound was closed by silk sutures, and the patient turned over and the usual incision—from the ribs to the ilium, along the quadratus lumborum—made; the kidney reached, exposed, and found so softened that, with a thrust of the finger, a cavity was opened containing considerable grumous bloody pus, on evacuating which a jagged rent could be felt running towards the free borders of the kidney and downwards, which was evidently a laceration from the kick. A large-sized rubber tube was inserted into the cavity of the abscess and the wound antiseptically dressed. The temperature fell at once, and the patient did well subsequently, with a free discharge from the posterior wound for forty-eight hours, when it rapidly decreased. Ten days later the tumor had much diminished in size, but at its lower portion was yet tender. From the wound a probe was crowded in this direction, and gave exit to a small quantity of blood and pus, and over the probe a small rubber drainage-tube was carried, and by the thirteenth day the temperature was normal. The anterior wound healed promptly, the sutures being removed on the fourth day. The posterior wound was entirely healed November 6th.

Now, December 5th, there is felt some hardness anteriorly at the region of the lower part of the tumor, but above normal intestinal resonance. It looks as if there had been some perinephritic inflammation as well as renal.

Incidentally in these remarks the advantage of nephrotomy over nephrectomy has several times been alluded to or illustrated. I beg now to call attention to a further extension of renal surgery of equal interest to us all. I refer to the treatment of calculous suppression of urine.

Roberts, of Manchester, had shown that the diagnosis of such cases was not always difficult; that a history of renal colic of one side at some previous time, with a recent similar attack on the other side, with slight or intermittent discharge of urine of low specific gravity, pointed clearly to the difficulty which terminates nearly always fatally in from six to ten days. In an article on renal calculi published by me in the *New York Medical Journal* of August, 1880, the suggestion was made that as the arrest of calculi took place as a rule either within the first three or four inches of the ureter, or at the vesical end, relief was to be afforded either by incision in the loin, into the pelvis of the kidney or distended ureter, or that by the hand introduced into the rectum the calculus might possibly be squeezed into the bladder, if sufficiently small.

In the *British Medical Journal*, March 8, 1884, Mr. Bennett May recommends nephrotomy for this same purpose, though he had never carried the project into execution.

Lately Mr. Morris, in the *American Journal of Medical Sciences* for October, 1884, suggests the use of a perineal opening into the bladder to permit its exploration and the detection of a renal calculus when impacted at its vesical outlet, and gives a plate of an elongated gum lancet to accomplish the incision of the vesical tissue covering the calculus. I have been on the outlook for a case in which I could put into operation my surgical conviction on this subject, but its demonstration, as far as I can learn, has only been accomplished by Bardenheuer, of Cologne.

This surgeon, in a case of complete anuria, with threatened acute uræmia from calculous occlusion of the right ureter, subsequent to destructive suppuration of the left kidney, cut down upon the right kidney by the usual vertical incision in the loin, and supplementing this by another incision parallel to the crest of the ilium. This gave a free exposure of the kidney, which was separated from its fatty capsule along its anterior face until the pelvis and ureter were reached. A calculus was felt in the ureter nearer the kidney, the size of a bean; this was cut open, removed, and the finger passed upwards into the pelvis of the kidney in which four other small calculi were found and extracted. The ureter was then sewn up, and the wound packed with an antiseptic dressing. The patient recovered.

The incisions. The method resorted to in the case of nephrectomy given in this paper, seems to be the best of the lumbar incisions, as it affords the greatest amount of extraperitoneal space. The usual vertical one, running from just below the twelfth rib to the crest of the ilium, along the external border of the quadratus lumborum muscle, or about three inches from the spine, affords ample room for a nephrectomy of a normal kidney, or for a nephrotomy; but when the organ is much increased in size, additional room is desired; enlargement of the wound upwards to the twelfth rib, or by removal of the rib, is highly injudicious, as has been shown by the dissections of Dr. Hall,[1] who showed that the pleural cavity, in nearly every instance in the examination of sixty cadavers that he examined, descended as low as the first lumbar vertebra, and that the greater part of the last rib is lined by this serous membrane. Even when the rib is wanting, the pleura comes down to the ligamentous tract which supplies the place of the bone. Lange has since shown that not infrequently the pleura comes even lower alongside the spine. In the only fatal case of nephorrhaphy (Ceccarelli's),[2] the kidney was attached not only to the wound, but also stitched to the twelfth rib by suture passed around it. Acute septic pleurisy carried off the patient. Increased space may be obtained, and safely, by cutting across the middle of the quadratus up to the spine. Also the ribs can be strongly raised by retractors. Czerny several times removed the kidney by a simple transverse incision running parallel to the ribs, and just below them outwards for from six to eight inches. In my own case, there was plenty of space created by the cross-incision, like an inverted L, starting from the upper part of the vertical one, and longest in its skin divisions. This is well shown in the specimen presented for your inspection. The peritoneum was seen, but it was kept out of the way by the semi-prone position of the patient. This line of incision is also advocated by Lucas. In a comparatively healthy kidney, or where the organ is the seat of a neoplasm, there is but little involvement of the fat capsule, and it can easily be torn or separated from the kidney. In inflammatory lesions, however, this manœuvre cannot be utilized, and the capsule proper of the kidney must be incised, and the enucleation accomplished under the membrane. This may add to the hemorrhage, but it is often impossible to do otherwise. The specimen shows this very markedly. Lucas has also advised, when the hemorrhage is severe after the ligature and ablation of the diseased mass, not to spend time in endeavoring to secure the bleeding points by ligature or forceps, but to plug the wound, and check it in this way. I was struck too late in my own unfortunate case with the efficacy of this measure. After several attempts to seize and tie the source of hemorrhage, found after death to be from a venous trunk above the pedicle, I plugged the wound, as will be remembered, and turned the patient on her back, when very little pressure sufficed to staunch the flow. Had this been done earlier, the issue might have been different. Special care must be taken not to cut too close to the ligated pedicle. The application of a straight or curved forcipressure forceps beyond the ligature prior to the ablation, is to be advised, to guard against this mishap.

Of the abdominal incisions, there are two: 1. The median, running three inches above and below the umbilicus; but less, however, in women with lax bellies. Kocher, however, began his at the xiphoid appendix, and ended it at the navel. 2. That of Langenbuch, along the outer edge of the rectus, in the linea semilunaris. By this latter incision, the colon is promptly seen, and should be turned to the inner side, so that its posterior or outer mesenteric fold can be cut through. This insures less hemorrhage, and avoids partially a risk that Bergmann ascribes to the abdominal incision, viz., subsequent gangrene of a portion of the intestine from interference with its circulation. When the kidney has been removed, Sir Spencer Wells advises the rent in the peritoneum to be closed by sutures; this can not always be done, as the edges are often torn and irregular. There is left necessarily a retro-peritoneal cavity of considerable size, the care of which requires attention. This space, though left to itself by many, has given rise not a few times to abscess or septic processes. Brichetti, in experimenting on animals, urges the necessity of draining this cavity by a tube carried through the skin-wound in the loin. Barwell has also made a similar suggestion, and it seems based on sound surgical principles; but Boothby is the only one who has so far done this with a satisfactory result.[1]

The conclusion from the broad consideration of the many cases embraced in the paper, is that the important and dangerous operation of nephrectomy can and should be more restricted in its application, and for disease that it will be most satisfactorily employed in suppurative processes which have not been relieved by the simpler procedure of nephrotomy.

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[1] Archiv f. klin. Ther., vol. xxv., 1880.

[2] Centralbl. f. Chirurg., Nov. 1, 1884.

[1] In the discussion that followed the reading of the paper, Dr. Stimson reported a nephrectomy, done in 1883, by abdominal section for a painful movable kidney, in which the posterior peritoneal opening was closed, and a drainage-tube carried from the renal cavity out through the loin. The result was fatal.

ON THE ANÆSTHETIC USE OF THE HYDROCHLORATE OF COCAINE UPON PARTS OF THE BODY OTHER THAN THE EYE.

BY HOWARD A. KELLY, M.D.,
OF PHILADELPHIA.

THE discovery of a local anæsthetic, innocuous and easily handled, would be of such inestimable value that I have eagerly attempted to make use of the now well-known anæsthetic properties of weak solutions of the hydrochlorate of cocaine, in a variety of dissimilar cases, with the following results:

CASE I. *Diphtheria.*—December 2, 1884, R. P., female, age 19. Has been ill for three days with a well-marked case of diphtheria. The cervical glands on both sides are enlarged, and the tonsils meet in the middle of the fauces, with a large œdematous uvula elevated and pushed forwards between them. These latter structures are covered with a thick, pultaceous mass of false membrane. The whole pharynx is hidden from view. The pain on swallowing is so great that she has taken but little milk within the past twenty-four hours, and she complains of the severe pain occasioned by the constant efforts at hawking.

I applied a four per cent. solution of Merck's hydrochlorate of cocaine, prepared for me by Mr. R. McNeil, apothecary, in a cold, saturated solution of salicylic acid, as suggested by Dr. Squibb in his recent article in the *Ephemeris.* The application was made three times, at intervals of two minutes, and five minutes after the last application she drank a glassful of milk without any pain, holding the nose to prevent regurgitation, and cleared the throat of mucus with great relief.

The subsequent rapid improvement left no room for further trial of the drug.

CASE II. *Laryngeal Phthisis.*—December 4, 1884, Mrs. P., age 29. Has advanced pulmonary phthisis and extensive ulceration of larynx, particularly the left vocal chord. She cannot swallow on account of the severe pain it gives her. She often sits a half hour trying to get a few spoonfuls of milk down.

I made two applications of an *eight* per cent. solution, at an interval of two minutes, to the larynx by means of a brush, and in six minutes she swallowed a glassful of milk with ease. After the effects of the drug had passed off she suffered "tortures" with her larynx all night.

December 5th, condition the same as to inability to take food. I made three applications of a four per cent. solution, at intervals of two minutes, and six minutes after the last she swallowed without pain, but, whether from the want of sensibility or the extensive ulceration, some milk passed into the trachea and occasioned violent cough.

A two per cent. solution is now in the patient's hands, and her husband makes the application whenever she wishes to take food, and without any disagreeable consequences, immediate or remote.

CASE III. *Fissure in Ano.*—December 3d, Mr. K., age 50. Has suffered within the past two weeks all the severity of pain to which victims of the anal fissure are liable. On exposure, an ulcer a half inch long, with an unhealthy, dull, bleeding surface, is easily seen just within the grasp of the external sphincter in its right anterior quadrant.

When I attempted to introduce my finger to explore the rectum further he jumped up with a cry that it was unbearable and felt like a red-hot iron.

I applied a four per cent. solution of Merck's hydrochlorate of cocaine, put up by Mr. Shinn for me as above, three times at intervals of two minutes, and in five minutes made a thorough examination, pressing my finger freely into the base of the ulcer without causing any pain, and then made an application of the solid stick of nitrate of silver over the whole floor of the ulcer. This burned, but was not unendurable, as I touched it three times, and, had it been necessary, would have made further application, as he requested.

CASE IV. *Dysphagia from Phthisical Pharyngitis.*—December 5th, G. B., age 40. Has advanced phthisis. He is utterly unable to swallow on account of the severe pain it gives him in tongue and throat. The tongue is beefy-red and absolutely clean; the fauces are pale and mapped out into irregular areas by large red vessels. The pharynx is red and injected. A four per cent. solution of cocaine was applied as above, and he drank immediately a glassful of milk absolutely without pain.

CASE V. *Tumor of Gum.*—December 5th. Mrs. H. came to my office and exhibits a mouth full of stumps and broken teeth fouled by incrustation at the roots.

From the left upper alveolus, about the position of the canine, depends a fleshy tumor as large as a shell-bark, vascular and ulcerated. It prevents closure of the mouth within half an inch, and of course interferes with mastication. It is painful when touched near the base with a pin. I brushed it over twice with an eight per cent. solution of cocaine at an interval of two minutes, and then burned the mass off with my Paquelin cautery without giving any pain.

CASE VI. *Dry Pharyngeal Catarrh.*—Dec. 5th, Miss M., age 22. Every night, and often through the day, the left side of the nose becomes so stopped up that her voice, which she uses much in singing, has a strong, nasal twang, and the stuffed-up feeling in the head is almost unbearable.

By the nasal speculum the left inferior turbinated bone is seen, pink and puffed out, pressing against the septum. Her condition has improved remarkably under linear applications of the nitrate of silver stick at two sittings, but the treatment was very painful, and, after the first sitting, she sneezed all the way home, a distance of two miles. At the third sitting I brushed the surface with the eight per cent. solution of cocaine, repeated twice at an interval of two minutes, and in seven minutes applied the silver stick without the slightest sensation of pain and much more satisfactorily than before, when it was necessary to be very quick.

Lachrymation was as marked as usual on the side to which application was made.

CASE VII. *Operation for Lacerated Cervix.*—Dec. 6th, Mrs. N., age 29, III-parous, three miscarriages, has a marked bilateral laceration of the cervix, with eversion of the lips, subinvolution, and menorrhagia. The cervix was exposed and a pledget of cotton saturated with the eight per cent. solution of cocaine laid upon the parts. Sensibility was tested first by the tenaculum and found to be marked. In seven minutes sensation was abolished, and I proceeded to denude the surfaces. I had but one helper, Dr. Wm. N. Ferguson, and the uterus was high up, and the operation lasted altogether two hours. She made no complaints, and only winced when the sutures were introduced. No fresh applications of cocaine were made.

CASE VIII. *Sterility from Endometritis.*—Dec. 7, 1884, Mrs. A. The fundus uteri is so exquisitely tender that the slightest touch with the sound has always been followed by a night of severe cramping pain at pit of stomach lasting for hours. I saturated a pledget of cotton with a four per cent. solution of cocaine and left it in the cervical canal for five minutes. During this time she said she felt a heating sensation like warm water running over the part. I then easily introduced Ellinger's dilator without any complaint and forcibly dilated the canal half an inch. The dilatation was accompanied by much pain. The drug only facilitated the introduction of the instrument and probably prevented the after-pain, for she had none, and drove out the next afternoon, contrary to orders.

From these cases, and some experiments made upon myself, some suggestions may be drawn as to the class of cases to which the drug is best adapted and the method of using it. I find, by experiment on my tongue with the eight per cent. solution, that two applications, at an interval of two minutes, are much more effectual than one, as to anæsthetic effect, although the duration of complete anæsthesia is not longer, being but three minutes I find—and it is a point of the greatest practical utility—that once brought under the influence of the drug, the response is very quick to subsequent applications. For instance, the tip of my tongue was anæsthetized, and about fifteen minutes after, on applying some of the solution continuously by means of saturated blotting-paper to the back of the tongue, a little solution running down completely anæsthetized the former spot in one minute.

I was able, by continuous application of the pledgets of cotton to the prepuce outside and inside, to pass a needle through it without pain, suggesting the possibility of operating for phimosis under the influence of the drug.

By continuous application of the eight per cent. solution to the dorsum of my hand I was enabled to pass a needle through the skin without pain, suggesting its use in removal of small tumors, warts, cysts, etc. An application to the lip has no effect, unless the part is kept *moist*, when the physiological effect of the drug is promptly developed.

The removal of urethral caruncle and condylomata ought now to be matters of great simplicity.

A remarkable effect which I just observed on the erectile tissues of the nose, to be detailed hereafter, suggests great possibilities for this drug in hay fever by topical application to the nose and inhalation through the atomizer.

My experience thus far would suggest the following as most important deductions to guide us in its further use in operative procedure: The conditions must be made as nearly as possible to resemble those obtained in the eye, the part must be continually *bathed* in the solution.

For this reason operation in any natural cul-de-sac, as the vagina, ought to offer the greatest facilities. When used on mucous membranes, where secretion is free, repeated applications are necessary; when used on the skin or lips or anal orifice, the part must be continuously soaked in the solution. An application of the eight per cent. solution to my lip dried without any effect, becoming effective as soon as moisture was supplied.

December 9, 1884.

MEDICAL PROGRESS.

PORRO OPERATION.—DR. VINCENZO LESI performed a Porro operation in the Civil Hospital in Imola, on October 23, on a rachitic woman. On the tenth day after the operation the patient was in a good condition, the temperature not having been above the normal.—*Gazz. degli Ospitali*, November 19, 1884.

HYSTERECTOMY FOR UTERINE EPITHELIOMA.—DR. A. Caponotto has recently published (*Annali d'Ostetricia*, October, 1884) the results of twenty-one cases of total hysterectomy, which were under the care of PROF. NOVARO, of Turin. Of the twenty-one operations, twenty were performed by the vaginal method. Six of the patients died shortly after the operation, the autopsies showing an extensive invasion by the cancer; so great, indeed, that, had the state of things been known, the operation would not have been performed. Of the eleven remaining cases, there were three complete and four incomplete operations, and four fatal cases, the incomplete having relapsed. We have, then, fourteen cases in which life was shortened by the operation, and three in which it was prolonged—results which are not very encouraging.—*Bull. Gén. de Thérap.*, November 30, 1884.

EXCISION OF A TUMOR FROM THE BRAIN.—The *Lancet*, of November 29, 1884, reports the removal, by MR. GODLEE, of a mass of glioma, the size of a walnut, from under the gray matter of the upper part of the ascending frontal convolution. At last accounts the patient was progressing favorably.

The London journals of December 6th, state that the case is still progressing favorably. The chief symptoms which led Dr. Hughes Bennet, who had charge of the case, to diagnosticate the extent and locality of the tumor were paroxysmal twitchings of the left side of the face, alternating with twitchings of the left arm on the same side, followed by slowly progressive paralysis of the hand, and later on by twitchings of the eyelids and legs without paralysis. These symptoms were accompanied by double optic neuritis and violent headache. Dr. Bennet concluded that there was a tumor, probably not larger than a walnut, at the upper third of the fissure of Rolando. The temperature and pulse have been normal since the operation, and the patient remains perfectly intelligent and cheerful.

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SATURDAY, DECEMBER 27, 1884.

INTERMITTENT ALBUMINURIA.

THE subject of intermittent albuminuria may be looked at from a variety of standpoints. At the same time, it is likely that the immediate cause in every instance is a temporary resistance to the easy movement of the blood through the kidney, which may be brought about, however, in a variety of ways. As an illustration of one of these, may be mentioned a very interesting and important case of albuminuria reported by FALKENHEIM in the *Deut. Archiv. für klin. Med.*, for September, 1884. It was that of a man, fifty years of age, who had a large splenic tumor, and whose urine, at his first appearance at Naunyn's clinic at Königsberg, was free from albumen. On the next morning, however, an examination of the urine passed during the night revealed albumen. At another visit it was again free from albumen. Careful examination of the urine passed at intervals of three hours then disclosed that between six in the morning and nine in the evening it was free from albumen, while that passed at about midnight, three, and six in the morning was albuminous. Thus it was ascertained that the urine passed while the patient was in bed was albuminous, and that excreted while he was up was free from albumen.

Further observations showed that position in bed had an important influence. As a rule, he lay upon the left side, because in this situation his splenic tumor gave him less inconvenience, and in the course of observation it was soon ascertained that when he lay upon his right side or on his back there was only a trace of albumen, while the urine secreted when he lay partly or completely on his left side was highly albuminous. When he lay rather more on his face than on the left side there was merely a trace, and when he lay upon his face there was none whatever. So, also, there was none when he lay partly on his face and partly on the right side.

It is evident that an albuminuria occurring under such conditions must be mechanical in its causation. The splenic tumor extended far beyond the median line toward the right. When the patient lay upon his left side the anterior part of the tumor tended to fall backward and to the left. This caused the posterior border of the spleen to elongate and press upon the vessels of the left kidney, and especially on the left renal vein. This vessel passes across the aorta from the hilus of the kidney, opposite the intervertebral disk between the first and second lumbar vertebræ, to the ascending cava, while the left renal artery, springing laterally from the aorta, proceeds more posteriorly to the hilus. The vein usually receives in its course the internal spermatic vein, which carries the blood from the testicle and epididymis. Now, if the supposed pressure were exerted on the vein beyond the point at which the spermatic vein enters it, we would expect both veins to be involved in the pressure, and there should also be swelling of the left testicle after the patient lay for a time upon his left side. This proved to be the case, so that Falkenheim concluded that the renal vein especially was compressed. No such satisfactory means was afforded of determining how much, if at all, the renal artery was pressed upon. But considering its position and the comparative firmness of its walls, it seems likely that the compression was at most slight.

These facts are in striking accord with the results of experimental compression of the renal vein, which have shown that a compression of from seven to twelve minutes has caused the urine secreted during that time to be albuminous. In this case, at the end of five minutes, after the patient's bladder had been emptied of a non-albuminous urine and he lay upon his left side, 2.5 cc. of urine drawn by the catheter contained a trace of albumen, and in twenty-one minutes the urine was highly albuminous. The urine in all other respects was normal.

So far as is known, no case has been reported which explains so satisfactorily, from the clinical aspect as contrasted with experiment, the effect of venous congestion in producing albuminuria. It is well known, too, that compression of the renal artery and of the ureter is also followed by intermittent albuminuria. But no confirmatory clinical facts have as yet been adduced, unless the pressure which the pregnant uterus exerts be such an instance as regards the ureters.

There are many ways in which such venous congestion may be brought about, and albuminuria be thus produced. Such are insufficiency of the tricuspid valve, whether primary or secondary to mitral disease; compression exerted upon the abdominal or thoracic cava, whether by tumors, or deformities of the chest from spinal curvature, or other cause; or renal disease itself.

PUERPERAL THROMBOSIS OF THE FEMORAL ARTERY.

CASES of arterial thrombosis in the puerperal state are rare. Hervieux, in 1870, stated that the greater part of all we know upon the subject of puerperal arterial thromboses is furnished by English writers, among whom he mentions Turner, Sir Risdon Bennett, and the late Sir James Simpson—the last having contributed an elaborate paper upon the subject.

One of the rarest of these thromboses is that of the femoral artery, and we turn, therefore, with interest to the report of a case of this disease occurring in the practice of DR. L. DESCHAMPS, and by him published in a recent number of the *Journal d'Accouchements;* additional interest attaches to this case from the fact that recovery took place after amputation of the thigh at the lower third, thus making the second case of recovery following this accident.

The patient was thirty-seven years old, and was near the seventh month of pregnancy, when, after two attacks of uterine hemorrhage, she was delivered on the 15th of June, nothing unusual occurring at the time. Her condition was favorable up to about a week after her delivery, when she complained of tingling in the right leg and foot; violent pains in the foot followed, and that which at first was thought to be a simple phlegmasia dolens proved to be thrombosis of the femoral artery, there being no pulsation in the artery below Poupart's ligament. The conclusion that the disease was a local thrombosis, resulting from an endarteritis, which led to complete obstruction of the vessel, rather than an embolism from cardiac lesion, was arrived at from the fact that no cardiac phenomena preceded the disorder.

The limb became cold up to the knee, the foot was black and gangrenous, though a few days after the beginning of the disease the thigh had a little warmth, and there was a slight pulsation in the popliteal artery discovered on the 28th, the third day after amputation was done. Some sloughing of the upper flap occurred; nevertheless the patient made a complete recovery.

The only other case, according to Dr. Deschamps, in which recovery occurred from puerperal thrombosis of the femoral artery, is reported by Mr. George Bottomley, surgeon to the Croyden Infirmary, in the *Lancet,* July 19, 1845, wrongly stated by Hervieux as 1855. Mr. Bottomley's patient was thirty-nine years old, was delivered on the 28th of February, and did well until ten days after, when she had an attack of pleuritis. Two or three days after her recovery the symptoms of gangrene of the foot first manifested themselves. Amputation of the limb above the knee was done on the 2d of May.

It will be observed that in the second case the disease was very much later in its occurrence, and by some it may be questioned whether there was a necessary connection between the disorder and the puerperal state. Certainly the history is not as conclusive in this respect as is that of the first.

A DANGER IN GASTROSTOMY.

IN the *British Medical Journal* for December 6, 1884, may be found the record of a case of gastrostomy, in which MR. BARROW transfixed the entire thickness of the stomach with two harelip pins, inserted half an inch apart, through which the exposed portion of the organ was maintained in position without resorting to sutures, the pins lying transversely across the superficial wound. Among the advantages claimed for this procedure is that "the pressure of the pins as they rest on the abdominal wall, together with the traction they exert on the stomach, insure very perfect apposition of the peritoneal surfaces, and firmly maintain this contact in spite of vomiting." In the discussion which followed the presentation of the case, Mr. Pearce Gould commended the plan recommended by Mr. Barrow, but no reference was made to the evil consequences which might result from its adoption.

There are two serious objections to this not novel procedure, which should prevent it from being carried out by other surgeons. The first is that the serous and muscular coats of the stomach alone should be penetrated, with the view to obviate the danger of the escape of the contents of the organ into the peritoneal cavity, and the setting up of peritonitis. In a case recorded by Volkmann such an extravasation did take place through the suture punctures, and the patient died of peritonitis in thirty-two hours. The second objection is that the traction exerted upon the stomach is liable to be followed by phlegmon of the viscus, as actually happened in two cases under the charge of Schönborn, the patients perishing, respectively, on the fourth and twentieth day. In view of these dangers, fixation of the stomach in the wound by pins should not be imitated, but non-penetrating sutures should be resorted to, their safety being established by a large experience.

SUPERIMPREGNATION.

MULTIPLE pregnancy presents some unsettled questions, and hence a brief consideration of the subject, suggested by two cases that have recently been communicated to us, may be of interest to our readers.

Impregnation and fecundation are synonymes, nevertheless a different meaning is arbitrarily attached to the two terms superimpregnation and superfecundation; the latter is regarded as signifying the fecundation of more than one ovule liberated at the same monthly period, while the former includes this as well as the fecundation of ovules set free at different periods, and is, in the latter case, called superfœtation. Hence, superimpregnation includes superfecundation and superfœtation. The two cases, the salient facts of which we will now give, possibly include each variety.

The first case is furnished by Dr. Brown, of Cloverport, Ky. P. B., 32 years of age, a colored woman, but not perfectly black, gave birth to twins, each a female and weighing about six pounds. One of the children was very black, with all the physical characteristics of the African race, but the other was just as plainly a mulatto. The woman had been kept as the mistress of a white man, but had a black lover to whom she also granted her favors, and did not deny having had intercourse with each at a short interval.

In most cases of multiple pregnancy it is impossible to know whether the ovules are impregnated by spermatozoids from one seminal discharge or from more, but this case clearly proves that the ovules were impregnated by spermatozoids from two acts of intercourse, seeing that one child had a black and the other a white father.

Clearly, too, this would be regarded as a case of super-fecundation, the two ovules that were impregnated being, theoretically at least, set free at the same monthly period. Of course, similar cases have been reported—there is no novelty in it—nevertheless this happens to be the first in which we knew the reporter, and, knowing him, have entire confidence in his statements. Examples, however, are more frequent in the domestic animals. Thus, several cases have been adduced in which a mare has been covered by a stallion, and afterward by a donkey, or the reverse occurred—in one example the interval was fifteen days—and giving birth to a mule and to a horse colt. Bitches have been covered when in heat by dogs of different kinds, and the offspring have shown at least two, if not three, different parental origins.

Dr. Wagner, of York, Penna., has sent us the other case referred to. On the 22d of July, Mrs. R., a woman about 40 years of age, was taken in labor. She menstruated the first week in the preceding November, the flow being normal in duration and quantity. She thought herself pregnant in the course of the month, but there was a slight flow lasting a day at the usual time the next month. Shortly after this, and without intercourse again occurring, she had to her mind satisfactory evidence that she was pregnant. The children were all born alive, all males; their combined weight was twenty pounds and a half, the heaviest weighing about five and a half pounds, each of the others about five. There were two placentæ, or at least three of the cords were attached to a single placental mass; this was situated at the right upper third of the uterus, while the single placenta was attached to the upper left side of the uterus. The child with the single placenta was born last. The mother had previously given birth to eight boys, and these added to the number made twelve boys from one mother—a fact that certainly is extraordinary. Unfortunately all the quadruplets died, three of them living only a few hours, while one lived two days. The longest measured fifteen, the others each fourteen inches. Now, the heaviest, the longest, the one that lived two days, was the one last born, that is, the one with the single placenta. The doctor pertinently asks if this last one may not have come from an ovule liberated at the November menstruation, while the other three were from ovules set free about the time of the December flow. This question, it is readily seen, is essentially one which involves that of superfœtation; but this subject is so thorny a one, beset with so many difficulties and doubts, that we defer its consideration to a future issue.

SOCIETY PROCEEDINGS.

PHILADELPHIA NEUROLOGICAL SOCIETY.

Stated Meeting, November 24, 1884.

The President, S. Weir Mitchell, M.D.,
in the Chair.

The President asked Dr. Woodnut, resident physician in the Philadelphia Orthopædic Hospital for Nervous Diseases, to read the notes of

A CASE OF ERYTHROMELALGIA

which had been under Dr. Mitchell's care in the Hospital, and exhibit the case.

J. C. R., æt. 53, married, blacksmith, family history good. Mother died at 72. Father still living. Six sisters still living and healthy; two died young. Has three children—all healthy. Has had scarlet fever, and at twenty variola, which left him slightly hard of hearing. Otherwise always perfectly well, until September, 1881, when he first noticed pain on inner side of second toe of the left foot. One year after, the third toe was affected; later, the little, then the fourth, and, about four months ago, the great toe—all on the same side. They were all affected in the same manner—first a burning, then an aching pain, and some weeks after there would be discoloration of more or less of the toe. Of the left foot, the great toe has been least affected, only feeling sore at the tarso-metatarsal joint. One year ago the pain began in the right foot, first appearing, as in the left foot, in the second toe. Now it affects the second, third, and fourth toes, but not so badly as in the other foot.

Pain is not noticeably worse in wet or cold weather. It is worse at night when the feet get warm. The last seven months, however, this was not so marked. Has occasionally had twitchings, chiefly at night, in calf of left leg and bottom of left foot. About six years ago the arms began to ache at night, and do occasionally yet. Pain is confined, to muscles apparently, just above the elbows. Arms are not quite so strong as formerly, but attributes it to want of use. Nine years ago ran a harrow-tooth in outer side of bottom of left foot. It healed without difficulty, and left no apparent after-symptoms. In January, 1883, had second toe of left foot amputated at proximal joint. It healed slowly, but relieved the pain, not only in that toe, but also in the others. The surgeon who removed the toe said that the amputated portion was "turned to gristle and had no circulation."

Has no history of syphilis nor alcoholism. At present all the toes affected are discolored. The left foot, up to the ankle, is covered irregularly with reddish patches, sometimes dark and sometimes brighter, disappearing on pressure, and more or less sensitive. Little discoloration on right foot except at corners of nails, and the disease has not developed so rapidly in the right as in the left foot. Foot more or less swollen to the ankle. "Tendons seem sore." Occasionally pain in outer left ankle. Occasionally whole leg aches, but greater pain is on the spots of redness. Pain on walking in the ankle and in the bottom of foot, so can only walk two or three blocks. Within the past few weeks a number of patches have appeared on the left leg, and one on the spine about the middle of dorsal region. For six or seven years has had occasional pains down the spine. It probably comes from a former sprain. Also occasional sharp, shooting pains at back of neck, on each side of spine, and down toward the shoulders, in the direction of brachial plexus. Not tender on pressure. Sensation slightly diminished in the whole left limb, except on the patches of redness, where it is increased.

Elec. condition. No De R. Response equal in both legs to galv. c. Far. c., slightly diminished action in left leg below knee. Sensation to both currents lessened in left limb. Measurement—r. calf, 13⅛; l., 12½; r. thigh, 20¾; l., 20½. Temp. R. 92⅜°, L. 93⅛°. Dyn. R. 71, L. 70. Appetite good, and, excepting pain, feels as well as ever. Urine, sp. gr. 1.027; no albumen or sugar.

His treatment has been absolute rest, massage, descending stabile galvanic current, and hot and cold applications to the spine once a day; chloride of gold and sodium, Fowler's solution, and ergot have also been used.

Nov. 21.—An irregular-shaped patch appeared on dorsum of each wrist, preceded for 48 hours by pain and soreness; disappeared after being out 36 hours.

23d.—Redness appeared on each arm above elbow. Not preceded by pain, and appearing just after massage. Massage also brings it to view more plainly in the leg.

DR. CHARLES K. MILLS said that he had seen quite a number of similar cases. His belief was that some at least of these cases were spinal in origin. The fact that some get well is not against this theory. A few years ago he had attended a lady who had all the symptoms of diffused myelitis, from unknown cause. He had also studied several cases of arsenical paralysis due to diffused myelitis. When the feet were pendent, in these cases, they would become hot, red in color, etc., like some of the cases of erythromelalgia. Dr. McBride, of New York, has described another type of cases, in which the limb is diminished in size, is cold, blue, etc.

THE PRESIDENT said that he had no doubt that some of the cases of erythromelalgia were spinal in origin. He was not so certain, though, as to the spinal condition. In some of the cases an hysterical condition is present.

DR. GUY HINSDALE exhibited

A PHANTOM BRAIN,

which is of large proportions, and is intended to show the course of the fibres in the human brain, and their relation to the cortex, to the ganglia, and to the spinal cord. The preparation has been recently purchased by Dr. S. Weir Mitchell, for the Mütter Museum of the College of Physicians of Philadelphia, and was constructed by Buechi, of Berne, Switzerland, under the supervision of Prof. Aeby. Its height is one hundred and twenty-five centimetres; its width, seventy centimetres. The cortex is dotted over with numerous corks, two centimetres long, which are distributed in systematic order. The basal ganglia are seen in their appropriate places. The spinal cord, made up of ganglia and columns of nerves of different colors, is represented throughout a portion of the cervical region.

DR. HINSDALE then read some notes on

POTASSIUM BROMATE, AND ITS ACTION IN NINE CASES OF EPILEPSY.

Bromate of potash resembles in some respects chlorate of potash, while retaining the characteristics of bromides. It was used in the spring of 1881, by Dr. Weir Mitchell and Dr. Hinsdale. The latter made a personal test of the substance, and found that doses of ten, twenty, and thirty grains, three times a day, slowed the pulse decidedly, and depressed the heart, the larger doses causing purging and drowsiness. A single dose of forty grains caused watery discharges from the bowels and drowsiness.

In the nine cases of epilepsy its use was satisfactory in only one; doubtful in two; unsatisfactory in six. The drug is such an irritant poison, and depresses the heart to such a degree, that the substance had to be discontinued in most cases, although it evidently controlled the seizures.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, November 21, 1884.

THE VICE-PRESIDENT, T. JOHNSON ALLOWAY, M.D., IN THE CHAIR.

(Specially reported for THE MEDICAL NEWS.)

MYELOID TUMOR OF THE THIGH.

DR. SUTHERLAND exhibited a large myeloid tumor of the upper half of the right thigh, which he had removed after death from a young girl, aged nineteen, who died in the General Hospital October 11, 1884. The history of the case is as follows: Up to April, 1884, patient had enjoyed the best of health, but toward the end of that month she complained of a dull, throbbing pain in the upper part of the thigh; this pain gradually extended to the knee and foot. The pain was increased by standing, and, in consequence, she was forced to give up work in a book-bindery in which she was employed. Soon afterward the pain was entirely relieved by the application of blisters and poultices, but she still had great soreness and stiffness of the leg on walking. She entered the hospital and was examined carefully, but nothing could be made out; there was no swelling of the limb or tenderness. After a day or so her mother took her away from the hospital, and she was treated outside for sciatica. About the 20th of July, patient noticed a small, hard swelling in the ham near its middle. This gave her no pain except when pressed upon. It was poulticed for ten days, and then opened by her physician on the supposition that it was an abscess, but nothing escaped but bloody serum and some clots. From this time the swelling rapidly increased, and on August 11th she was admitted into Dr. Shepherd's wards at the General Hospital. At this time the tumor surrounded the thigh was fusiform in shape, smooth, and painless, and distinctly fluctuating; measured twenty inches in circumference. The girl was in a very anæmic and miserable condition, and had a temperature of 103° F. An exploratory incision was made by Dr. Shepherd at the site of the old wound, and it was found that the tumor extended upwards to the pelvis and involved all the soft structures; portions of the tumor examined microscopically showed the characteristic appearances of myeloid tumor. It was decided that the condition of the patient and the extent of the disease gave little hope of recovery from amputation of the hip-joint, and as her friends strongly objected to the operation, it was not pressed. Patient lingered on till she died of exhaustion early in October. The tumor then measured some thirty inches in circumference.

Dr. Trenholme read a report of

SIX CASES OF REMOVAL OF THE UTERINE APPENDAGES, WITH RESULTS.

The operations were performed during the year ending April 1, 1884. The cases were all very much alike, the symptoms being intense pelvic suffering, directly connected with the continuance of the menstrual function. In all the cases the ovaries were enlarged and diseased; in some the Fallopian tubes were also affected. The operations were performed without the spray, but the hands, instruments, and sponges were cleansed in a weak solution of carbolic acid. The ligatures used were of shoemakers' thread, No. 20, carbolized over night. Dr. Trenholme, in all his abdominal operations, prefers this ligature to silk or catgut. He never uses more than a single ply of this thread, and he has left as many as forty or fifty ligatures in the abdominal cavity without any ill-effects following. Dr. Trenholme also discards abdominal bandages, trusting to deeply placed silver sutures to secure coaptation. For the superficial sutures he uses horsehair; he endeavors to obtain union by first intention in the abdominal incision by avoiding the wounding of muscular tissue and also carefully excluding it from the deep sutures. In all his cases he, by these means, secured immediate union.

There was in each case slight metrorrhagia on the second or third day after operation. All the patients suffered for several months from "flushes of heat" and "hot perspiration." In one case the patient had a slight bloody discharge on two separate occasions.

Results.—In all but one of the cases the results have been satisfactory, the patients being now able to perform the household duties of their respective stations in life.

Cases four and five were complicated by mental disturbances. Case four was not benefited by the operation. Case five is of special interest. Here decided mania followed long-continued disease of the uterine appendages. With the onset of the mania the pelvic suffering ceased; both ovaries were found diseased, and their removal has been followed by complete recovery of the patient, both *mental* and physical.

Dr. Henry Howard said that he was glad to find that Dr. Trenholme, by his removal of the ovaries for sexual insanity, recognized a physical cause for mental disease. He said that in all these cases there was anæmia of the brain, and that if this anæmia was removed by the arrest of excessive menstrual flow, then extirpation of the ovaries was justifiable. He had had no experience of this method of treating the insane. If removal of the ovaries succeeded in females, then castration ought to be the treatment of males. However, he held that no benefit would arise from treating the insane in this manner.

Dr. Wm. Gardner had operated in four cases. One case, in which there were many adhesions and free bleeding, proved fatal from peritonitis. Three of the patients operated on had been benefited; one very much so, the others to a lesser degree. Dr. Gardner said there could be no doubt of the propriety of the operation in cases of palpable disease of the uterine appendages, with local symptoms, in which other treatment had failed to relieve; but it was not so certain that benefit would follow the operation for symptoms purely neurotic, aggravated at the menstrual periods. The neurotic element in many of the cases must be recognized and treated. The successful gynecologist must also be something of a neuropathist. All his patients operated upon had suffered more or less from the disturbances which attend a normal menopause. In none of them had ventral hernia occurred, but he had taken care that each patient was fitted with an efficient abdominal supporter before being allowed to leave her bed.

Dr. Armstrong said that he had only on two occasions removed the uterine appendages. The last case occurred so recently that he could as yet draw no conclusions as to the benefit of the operation, but the first case had been operated on nearly two years ago, and the woman was now living in comparative comfort as a domestic servant. He looked upon the result of the operation in this case as satisfactory.

Dr. Cameron asked Dr. Trenholme if, in the case in which there was a regular flow after the operation, the Fallopian tubes had been completely removed, as it was held by some that the mere removal of the ovaries would not suffice to arrest the menstrual flow.

He remarked that we should consider whether the ovaries caused the deterioration of health, or were a consequence of it, and also whether there was a stage of the disease when treatment could avail.

Dr. Kennedy wondered whether this operation of spaying would stand the test of time. It is now in its rise. Will this be succeeded by its fall? He remarked that it was most important to determine in what cases it was proper to remove the ovaries. Dr. Kennedy thought that the operation was justifiable in cases of prolapsed and painful ovaries. He considered the operation not a dangerous one, and that fear of opening the peritoneum was due to traditional prejudice. He preferred the hemp ligature and tying the pedicle.

THE CHAIRMAN said that this condition of the ovaries was due to a perverted condition of life. He suggested that the moral effect of the operation had much to do with the cure in these cases, and narrated some cases in which there was a pretended operation, an incision being made through the skin only, and the patients were much benefited, and in some cases cured.

DR. GARDNER asked Dr. Trenholme whether, after his operation, he had noticed any metrostasis, and whether vomiting was a frequent symptom? He, in connection with the remarks made by Dr. Cameron, said that in one of his cases, in which all the uterine appendages had been removed, the woman had menstruated regularly.

DR. TRENHOLME, in replying, advocated the study of mental diseases in connection with disorders of the generative organs, both male and female. This new field, he said, was worthy of further exploration. He believed that the castration of all lunatics, idiots, imbeciles, *tramps*, and confirmed criminals would be followed by the greatest benefits to society, as it would effectually prevent their propagating, and so transferring defects to their progeny. In reply to Dr. Gardner, he said he always had metrostasis in his cases, and occasionally vomiting.

DR. JAS. STEWART showed a well-marked case of

IDIOPATHIC NEURITIS OF THE BRACHIAL PLEXUS.

Patient, man, aged 35, was, until seven months ago, when the neuritis suddenly set in, in perfect health. Has now complete paralysis of all the extensors of the fingers and hand, of all the flexors except the ulnaris, which is only in a paretic state. Has also complete loss of the thumb movement, cannot flex his forearm; neither can he pronate nor supinate it. Shoulder movements normal. Marked atrophy of the paralyzed muscles. The deltoid and spinati are also in a state of atrophy, but it is slight compared with the wasting of the paralyzed muscles. These latter do not respond to the faradic current. There are both qualitative and quantitative changes with galvanism. The skin of the paralyzed hand is glossy, and at times presents bluish spots. There is marked anæsthesia in the ulnar region of the fingers and hand; all the parts are perfectly normal as to their sensation. Very slow improvement is taking place from galvanism.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, December 9, 1884.

THE PRESIDENT, ROBERT F. WEIR, M.D.,
IN THE CHAIR.

IMPERFORATE ANUS; FISTULOUS COMMUNICATION BETWEEN THE RECTUM AND VAGINA.

DR. C. K. BRIDDON presented a child two years old, which he saw for the first time Saturday last, at the Presbyterian Hospital, when the mother stated that it had retention of urine for which the catheter was used twenty-four hous before, but since the catheterism no urine had passed. She further stated that the feces came from the wrong passage, and that sometimes the urine was clear and sometimes it was foul with feces. On examination it was found that the belly of the child was enormously distended, that the distention belonged to the alimentary canal, and was particularly marked at the sides of the abdomen, but especially on the left side, where a hard tumor could be felt distinctly. Dr. Briddon introduced a catheter into the bladder, and about eight ounces of perfectly clear urine were withdrawn, While the catheter was tightly compressed by the urethra, an instrument sufficiently large being used to fill it to distention, a small quantity of fecal matter passed from the vagina, and on inspection it was found to come from a fistulous communication between the rectum and the vagina.

His impression then was, that it was a case sufficiently urgent to demand, immediately, the operation of inguinal colotomy, but without trouble he introduced an elastic catheter into the intestine through the vagina, and then pumped in warm water, and allowed it to return, bringing away fluid feces. The injection of the intestine was continued about an hour and a half, and during this time friction of the belly was made with vaseline. At the expiration of that period of time the alimentary canal was apparently entirely empty. The child was then sent home with the direction to return on the following Monday, when the injections were repeated.

It was well known that fistulous communication between the rectum and the bladder might go on without giving rise to much trouble during infantile life, but as soon as the stools became formed, intestinal obstruction was likely to occur, which would necessitate interference of some kind. Dr. Briddon found that he could pass the sound readily upward in the alimentary canal so that it could be felt through the integument in the left inguinal region. Withdrawing the sound a trifle and reversing it, he could then feel the end of the instrument just in front of the point of the coccyx.

He contemplated performing one of two operations. First, to make an incision where the natural opening should be, remove as much of the coccyx as might be necessary, and then dissect up to the intestine, making an opening in it, and stitch its edges to the skin, leaving the recto-vaginal fistula for after-treatment in adult life. Or to perform Rizoletti's much more complete operation, which consists in making an incision in the median line of the fourchette as far back as necessary, separating the entire wall of the rectum, bringing it down and placing it behind the normal position in this particular instance, as was rendered necessary by the position of the ischii. After the rectum was attached to the integument immediately in front of the coccyx the vaginal wound was to be stitched from within, and a perineum was formed by coaptation of the sides. In six of these cases reported in Curling's work on the rectum, the results have been very good in after-life.

DR. J. L. LITTLE had seen this child when it was about three weeks old. He made the same examination which Dr. Briddon had made, and could verify the existence of a fistulous communication between the rectum and the vagina, At that time he hesitated to operate because of the delicate condition of the child. His idea was to operate according to the method mentioned by Dr. Briddon, and afterwards to close the recto-vaginal fistula.

DR. SANDS had also seen the child, and advised that nothing be done until it reached a more mature age.

THE PRESIDENT said that fifteen years ago he had a case of this kind in which he performed a similar operation, and the patient reached the age of four years, and then died of some intercurrent affection.

DR. BRIDDON remarked that it was difficult to separate the entire walls of the rectum, and bring it down, but he thought it worth the trouble to try and perform the operation.

DR. POST referred to a case of absence of the rectum in which he was obliged to bring down the intestine from a height of two or three inches, and attach it to an opening in the integument. It did very well for some time, but contraction occurred from neglect on the part of the parents, and afterwards he was obliged to dilate the part with tents of soap, and the child had subsequently had free evacuations, and had enjoyed good health.

DR. MCBURNEY presented a girl nineteen years old, upon whom he performed

EXCISION OF THE ELBOW,

eighteen months ago for osteitis, which originated in traumatism received two years before the operation. The foream was flexed at an angle considerably less than a right angle, and the entire arm was quite useless from pain and immobility. The operation was performed by making a long posterior incison and removal of the entire head of the radius, the articular end of the ulna, and one inch of the lower end of the humerus. The patient has now good use of the forearm, and plays considerably upon the piano—is able to play for one hour at a time. Flexion and extension of pronation and supination are very good. The patient also has morbus coxarius, for which she is being treated by the use of a mechanical appliance. The operation was performed on May 8th, and on the 9th of July the patient was able to perform the present amount of flexion and extension.

DR. BRIDDON referred to a case in which suppuration of the elbow-joint continued for seven or eight months, and the sinuses were eventually healed by the injection of a stimulating solution, but it was supposed that the limb was useless. The finger and thumb could be inserted between the extremities of the bones. To aid the patient in using the arm, Dr. Briddon had constructed a tin angular splint, which enabled her to discharge her household duties with considerable facility. Occasionally the angular splint would get out of order, and, on one of these occasions, while it was away for repairs, the patient found that she could use her arm as well as before the operation, and the splint from that time was discarded, and she continues to do her household work with a joint which, in scope of movement, did not compare with that in the case presented by Dr. McBurney.

WRYNECK, WITH PARALYSIS OF THE SERRATI MUSCLES.

DR. A. G. GERSTER presented a patient, a boy, who exhibited wryneck and a peculiar position of the right shoulder-blade—namely, that characteristic of paralysis of the serratus muscle. The essentials of the history were that the child, some time before one year of age, suffered from whooping-cough. Ever since that time this peculiar position of the head had been noticed. Nothing was noticed concerning the scapula at that time. When the patient was examined superficially, the first point which attracted attention was a peculiar elevation corresponding to the course of the upper border of the trapezius muscle, which made it appear as though contraction of this muscle was present. Indeed, that diagnosis was made by several of his colleagues. The position of the scapula, however, was such that the assumption, that it was due to the contraction of the trapezius muscle, could not explain it. The contraction of the trapezius which was present would go far to explain the wryneck. In order to explain fairly the causation of the malposition of the scapula, Dr. Gerster anæsthetized the patient, and found that the scapula, when the muscle was flabby, did not reach the normal position, as it should have done if the malposition was caused by the contraction of the trapezius alone. Further, when contraction of the trapezius was induced by the faradic current, the malposition of the scapula was not influenced, and it was evident that the malposition was due to the contraction of the levator scapula and the rhomboid muscles. He also tested the reaction of both serrati muscles, and found that the normal function of these muscles was not present on the right side, as could be easily illustrated by irritation of the muscles on the left side. Contractions of the serrati muscles on the side of the lesion could be elicited, but they were insufficient to bring the scapula into its normal position.

The scapula was drawn upward and inward toward the spine, and at the same time the inner border of the bone was not in contact with the thorax, but elevated from it, or more prominent than normal. At the same time the entire scapula was rotated about its antero-posterior axis. An apparent tuberosity, corresponding to the upper and inner angle of the scapula, was produced by the upper internal angle of the scapula itself, and not by the contraction of the muscles.

His explanation of the condition was, therefore, that it must have originally been a case of infantile paralysis of the serrati muscle of the right side, and that the contraction of its antagonists—the levator and the rhomboids—took place then, and out of this contracture finally evolved, which remained permanently. It was a rare malposition, and therefore he presented the case. It was a question whether dividing the contracted muscles would help to correct the malposition. The circumference of the thorax had been measured, and it was ascertained that the affected side was smaller than the other, both in inspiration and expiration; smaller during expiration by one-half of an inch.

DR. R. F. WEIR then read a paper entitled

REMARKS ON EXTIRPATION OF THE KIDNEY.

(See page 707.)

THE NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, December 15, 1884.

THE PRESIDENT, WILLIAM DETMOLD, M.D., IN THE CHAIR.

ASIATIC CHOLERA.

PAPERS devoted to cholera having been read at the last two meetings of the Association by Drs. Flint and Leale, a general discussion of the subject was set down as the special order for this evening.

DR. E. G. JANEWAY said that the first point which he should bring up was whether cholera was a specific disease, having its home in India, and always carried thence when it made its appearance in other countries. It was one, however, which it seemed hardly worth while to discuss, since the truth of this proposition was almost universally admitted at the present day. Still, there are some writers in current periodical literature even yet who appeared to believe that there was such a thing as epidemic cholera outside of India.

(2) The whole weight of evidence pointed to the origin of the disease as due to a specific poison. The researches of Koch in India and Egypt, and the evidence for and against the comma-bacillus as constituting the *contagium vivum* of the disease, had been admirably given in the paper read by Prof. Flint at the October meeting of the Association; and he did not propose to go over them again. At that time, however, there were certain points which had been brought up which seemed to militate against the bacillus doctrine; but the recent announcement of Koch in the *Deutsche medicinische Wochenschrift* showed that they did not in the least invalidate his position. The first was that claimed by Mr. Timothy Lewis, that comma-like bacilli, identical in size, form, and in their reaction with aniline dyes with those found in choleraic dejecta are ordinarily present in the mouth and fauces of perfectly healthy persons; and Koch had now shown that this form of bacillus had already been known for years; that it differed from the comma-bacillus in being longer, more slender, and not so blunt at the ends, and also that it could not be cultivated in the weak alkaline peptone-gelatine in which alone the latter would develop. The second was that certain bacilli found in connection with cholera morbus are identical with the comma-bacillus of Koch, and Koch had now shown that Finkler and Prior, who claimed this, are entirely in error; the so-called bacillus of cholera morbus being totally different from the latter in its form and mode of growth, and probably having no special connection even with cholera morbus.

On the other hand, at the time that Prof. Flint read his paper, while Koch himself had as yet failed in establishing the crucial test of inoculation for the comma-bacillus, it had just been announced that Rietch and Nicati had successfully inoculated a number of animals with cholera microbes by injecting them directly into the duodenum. Now, however, Koch had been able to confirm the experiments of these observers in his own laboratory, and, moreover, he had produced inoculation by using the fresh bacillus culture in so diluted a form that only the one-hundredth part of a drop was injected into the duodenum. The animals died with choleraic symptoms in from one and a half to three days, and after death the intestinal fluids were found to contain comma-bacilli in large numbers, just as in a case of cholera in the human subject which had been of short duration. These later proofs, in support of Koch's theory, seemed, therefore, to furnish the "missing-link" in its positive demonstration, there being apparently no longer any room for doubt in regard to its correctness.

Dr. Janeway then said he thought it might perhaps be well to take up the questions that were presented for discussion at the recent cholera conference in Berlin. The *first* one was, *Is cholera caused by specific infectious matter that only comes from India?* He had already alluded to this point, and he would only report that the evidence was overwhelming in support of this proposition.

Second. Is the infectious matter introduced only by the intercourse of human beings with one another? This point seemed also to be established, and, indeed, it would almost necessarily follow from the first.

Third. What are the carriers of the infectious matter in foreign traffic—ships, goods, letters, people in good health, or people already infected? The carriers were apparently infected persons, and perhaps goods allowed to come in contact with them.

Fourth. What are the carriers of the infectious matter in ordinary traffic in places where cholera is prevailing—corpses of cholera patients, effects of cholera patients, linen, articles of food, drinking and household water, the air, or insects? This was a very broad question which it was difficult to answer in a positive way. It was possible for the corpse to purge after death, and such dejections might give rise to the disease. The germs were also especially liable to be preserved in damp clothing. In regard to water, it seemed to be established that the comma-bacillus would not develop in perfectly pure water, the presence of more or less foreign matter being required by it.

Fifth. Is a direct transmission possible, or must the infectious matter pass through a kind of maturity, or change of generation, in the ground or anywhere else? It looked in many cases as if there was direct transmission. The journals, it was true, had lately published an account of the chief of Vulpian's laboratory in Paris swallowing with impunity the excreta of a cholera patient in the form of a pill; but the fact that he was only rendered slightly ill by the infectious matter simply showed that he was not susceptible to cholera at that particular time.

Sixth. Is the infectious matter reproduced in human beings, or does this take place independently of human beings, in the ground, and do human beings, animals, etc., then serve only as bearers of infection? This was much the same point as the last.

Seventh. Is the infectious matter contained in the dejecta, or eventually in the vomit, or is it also to be found in the blood, urine, sweat, or air for breathing? He believed that, as a rule, the dejecta alone contained the infecting agent. The vomit rarely contained it; but, of course, to be on the safe side, it was better to dissipate both the vomit and the dejecta.

Eighth. Does the infectious matter possess great power of resistance and permanency? It was altogether probable that it had but little power of resistance, and experience had shown that it could not continue longer than six months at the most in this country. The number of persons attacked also showed that its power was slight.

Ninth. Is it killed in a short time by drying? As far as the comma-bacillus was concerned, Koch had shown that it could not survive in twenty-four hours at the most.

Tenth. Can the infectious matter reach the body by other channels than through the digestive canal? This was difficult to determine. Although it might not be taken into the lungs by means of the breath, it seemed possible that it might be received into the mouth through this agency, and then swallowed. Koch seemed to deny this; but Dr. Janeway felt confident that he had seen instances in which typhoid fever was in all probability caused by the infectious matter being carried by means of the breath into the mouth, where it was swallowed.

Eleventh. Are special individual dispositions necessary to make it effective? Such dispositions seemed to be required in all infectious diseases; but this feature seemed more marked as regards cholera than any of the others. The greater or less liability of the individual to contract disease at different times was shown very strikingly in the case of the late Dr. Mott, who was resident physician at the Riverside Hospital, Blackwell's Island, for a number of years. He had treated as many as 500 cases of typhus fever at one time, and escaped the disease himself, although eight or nine of the nurses contracted it. The next year there were 160 cases, and the year following 70. Dr. Mott was then seized with a fatal attack of the fever, and it was remarkable that he took it from a group of twenty cases coming from Hamburgh, which was of a much milder type than that of the other series of cases that he had treated; only one out of the twenty proving fatal. The same difference of susceptibility at different periods was also shown in the case of Dr. Chapin, of the Riverside Hospital. He had been frequently exposed to the risk of smallpox, typhus fever, and other infectious diseases; but never contracted any of them until after returning from a year's absence in Europe, when he was taken with a severe attack of typhoid fever which lasted for seven weeks. All present must also have observed similar instances.

Twelfth. What is the length of duration of the incubation stage? There was some confusion of authorities in regard to this point, but Hirsch maintained that the period of incubation was not over five days or less than two days.

Thirteenth. Does the fact of recovery from an attack of cholera seem to afford immunity for a certain time? Such appeared to be the case.

Fourteenth. Is the infectious matter of cholera identical with the comma-bacillus? Dr. Flint, in his paper, stated the argument for this identity so forcibly that it only remained to refer to the additional proof, of which he had spoken, which had been adduced since then. The latter, he believed, made the case secure.

Fifteenth. Can the mode of operation of the bacilli be looked up to as an intoxication? He thought not.

Sixteenth. Is the proof of the presence or absence of comma-bacilli of diagnostic value? That such was the case he believed that there could now be but little doubt.

Dr. Janeway then proceeded to discuss the question of cholera as far as New York was concerned. In the first place, should a quarantine be maintained, and if so, how long should it last? He believed that it was wise and desirable to subject ships, and their contents, arriving from cholera ports to detention and disinfection. It was true that quarantine against cholera had not always been successful in the past, but this afforded no reason why it might not prove so now.

In the second place, what was necessary to place New York in the best possible condition for preventing the spread of cholera in case the disease should make its appearance? This was, of course, a question of the greatest practical importance, as there were many existing conditions which were fraught with danger, and many things which, if done now, would go far toward rendering a visitation of cholera comparatively harmless. These could be attended to much more satisfactorily at the present time than after the disease had appeared, when there would naturally be a good deal of hurry and confusion. He would by no means attempt to go over the whole ground, but there was one source of risk to which he would like to call special attention. Few of the people of New York realized how many privy vaults there were in the city which were unconnected with the sewers, and the principal reason why there still remained such a large number of these was the obstruction to their removal offered by the law itself. A privy vault in a large city was always a nuisance, which certainly ought not to be tolerated; but judges had again and again decided that such places were only nuisances when they smelled badly. The owners of all privy vaults should be required to substitute for them trough closets or "school sinks;" but as there was little hope of this being accomplished at present, these places should all be systematically and thoroughly cleaned and disinfected. Another point that he would suggest was that the Board of Health should be supplied with sufficient means to enable it to watch with great care all suspicious cases of disease occurring in the city. The authorities had recently made an appropriation of $50,000, to be used by the Board in case cholera should come to New York, but not otherwise; but he thought that some of this money at least should be spent in anticipation of such an event. For instance, it would be an excellent plan to establish several convenient reception wards in different parts of the city where patients taken with cholera, or with symptoms resembling those of the disease, could be received, and the serious risk of transportation over long distances thus avoided. In cholera epidemics, as was well known, there were generally some patients who died on the street. Another thing that should be attended to was the foul condition of many of the slips along the river front. Koch had shown that two per cent. of salt would not arrest the development of cholera germs, and the odor that arose from these slips at all times was sufficient to make it highly desirable that they should be dredged, and that the sewage should be carried to the ends of the piers.

Dr. Janeway then called attention to the large proportion of cases of cholera which had occurred in the city institutions on the islands in the East River in past epidemics in New York. There had been six of these altogether, the first occurring in 1832 and the last in 1866. In the latter year there were in the city 1137 deaths, which was less than in 1832, although the population was, of course, vastly larger at that time. If the proportion of deaths to the population had been as great in 1866 as it was in 1832, there would have been no less than 12,588 deaths in 1866. If it had been as great as in 1849 there would have been 7143 deaths, and if as great as in 1854 there would have been 3005 deaths in 1866. In the latter year about one-half of all the cases, 559, were on Blackwell's, Ward's, and Randall's Islands. Three hundred and sixty of them occurred on Blackwell's Island alone, and the disease was particularly fatal in the female department of the workhouse, where 151 died out of a population of 800. The comparatively small number of deaths in the city proper showed that the measures taken at that time by the health authorities were efficient in preventing a violent outbreak of cholera. Thus there were only ten houses in which four or more deaths occurred.

In this connection it was important to determine what agents were suitable to use for disinfecting purposes. Koch gave a list of agents which prevented the growth of the comma-bacillus. Among them was a temperature below 16° C. or above 100° C. Freezing, however, would not actually kill the microbe, though boiling would do so. Others were: alum, in solutions of the strength of 1 in 100; camphor, 1 in 300; carbolic acid, 1 in 400; sulphate of copper, 1 in 2500; quinine, 1 in 5000; and bichloride of mercury, 1 in 100,000. Iodine in solution in the strength of 1 in 10, alcohol in the strength of less than 1 in 10, and chloride of sodium of two per cent. strength, did not interfere with the development of bacilli. Koch did not think that sulphate of iron had any specific disinfecting action; but it had certainly seemed to work well in New York. Whether the agents above enumerated which prevented the growth of the germs really destroyed them was still a question.

Was a house in which a case of cholera had occurred to be ventilated or fumigated? Koch maintained that the former was quite sufficient, and advised that the premises should be vacated for six days. The latter measure it was often difficult or impossible to accomplish, and for his own part he thought it was best to fumigate and ventilate also. If we ordered a room to be ventilated the thing might be very imperfectly done; but if it was first fumigated with sulphur (for which he had a great liking in cases of infectious disease), we might be pretty sure that it would be thoroughly ventilated afterwards. It was better to do a work of supererogation, he thought, than not to take sufficient precautionary measures. Another question that arose was, whether it was best to sweep the streets or to flush the gutters thoroughly.

The matter of cholera morbus was one of some importance on account of the resemblance of the disease to Asiatic cholera. Under ordinary circumstances the latter diagnosis was excluded, because of the absence of cholera from the country or city; but at times when the appearance of cholera was likely to be expected the question of diagnosis was more difficult. Was it safe to trust to the presence or absence of the comma-bacillus in determining the true nature of the case? Koch had claimed that it was. If there was any doubt, however, it was far better that cases of cholera morbus should be treated precisely as if they were Asiatic cholera. In making out the positive existence of comma-bacilli clear cultures were required, and Koch thought that every city health board ought to have some one connected with it who was capable of making the cultures. Dr. Janeway then spoke of the duty of all physicians to report all suspicious cases occurring at any time in their practice. More than one epidemic of contagious disease, he said, had been allowed to spread because medical men had failed to call the attention of the Board of Health to cases of such diseases at an early stage, when preventive measures were of the greatest importance. If cholera should appear, it would no doubt be of great service if every case of disease that was at all suspicious should be promptly reported.

As regards treatment, he remarked that he had little to say except to refer to one or more remedies which had been suggested. One of these was the injection of a solution of salt in large quantities under the skin, as recommended by Senator, in order to make up for the drainage of chloride of sodium and liquid made from the system by the disease. It had been advised that the salt should be used in the proportion of from 5 to $7\frac{3}{10}$ parts to 1000, and some would add to this one part of sulphite of soda. It had also been proposed to revive the practice formerly resorted to of transfusion with saline solutions; care being taken that not more than sixty-nine cubic centimetres should be injected into the veins per second. This procedure, however, had not succeeded well in the past.

The President said that there could be no doubt that cholera followed the highways of commerce; originating in India, and spreading thence to different parts of the world. In his opinion the question of the essential agency of the bacillus in its production was not yet decided. It was the fashion of the day to refer diseases to a parasitic origin, and fashion was as powerful in medical matters as in others. All new discoveries, he thought, ought to be subjected to the severest tests before they were accepted as scientific facts, and in this connection he alluded to the so-called cancer-cell and the so-called microbe of syphilis. There were many competent observers in Europe who still doubted the correctness of Koch's opinions.

Dr. A. Flint, Sr., said that he had already spoken fully in regard to the strong probability of the parasitic origin of cholera, and would not now go into that subject. In regard to many of the questions proposed at the cholera conference at Berlin, to which Dr. Janeway had referred, he confessed that he did not feel competent to give a decided opinion. He had had a very considerable clinical experience with cholera; having seen something of the disease in all of the epidemics of it which had occurred in this country. At the time of the epidemic in 1832 he was a medical student, and he had seen cases of the disease, as well as dissected the bodies of those who had died from it. It was in 1849, however, when practising at Buffalo, that he had had the largest experience with cholera. From June to September of that year there were 2500 cases, with 800 deaths, and he himself treated 150 cases. The most of these were in hospital practice. He recorded nearly one hundred cases at the bedside, and he had brought their tabulated history with him on this occasion. At that time he thought the proof was complete that cholera was not a communicable disease.

To show what his views were, Dr. Flint here quoted as follows from his report on the epidemic cholera at Buffalo, in 1849: "It is obvious from the relative situation of the first cases which successively occurred, and their relation in the order of time, that the disease could not have been transmitted from one person to another. The number of streets in which cases occurred, and that, too, simultaneously and in rapid succession, is opposed to the idea of its having extended itself by means of a contagious principle. The fact that while more or less intercourse with the villages in the vicinity of Buffalo was kept up, and some cases occurring in persons coming from the city, no individual coming from the city was known to have the disease, affords negative proof against the doctrine of contagion. It will be conceded that the strongest evidence of the contagious character of an epidemic disease is derived from observations showing that a person coming from a section in which the epidemic prevails into a region where it is unknown, and there becoming affected with the disease, a greater or less number of those coming into contact with him become affected with the same disease, and it thus spreads over the neighborhood. This species of evidence of the contagious character of typhus has frequently been offered. The history of epidemic cholera in this neighborhood furnishes no such proof of its propagation by personal communicability." From his later studies on the subject of cholera he had been led to believe that the opinion expressed in this article was incorrect.

How, then, could the facts therein stated be reconciled with those which seemed to point clearly to a special cause for the disease? In this connection, he thought it would be of great interest and importance to determine whether, during the prevalence of cholera, many cases which appeared to be simply ones of ordinary diarrhœa, were not in reality characterized by the presence of the distinctive bacillis of cholera. He then quoted as follows from the same report: "Anterior to the appearance of the disease in this city, and during the whole period of its continuance, disorders of the digestive system were extremely rife. The proportion of the population that entirely escaped more or less of these disorders was small. The disorders consisted in diarrhœa or looseness of the bowels, preceded and accompanied by lassitude, griping pains, sense of distension, and especially by borborygmus. The latter was a uniform and striking symptom. Usually these symptoms were speedily arrested by simple measures. Occasionally they were rebellious to medical treatment. Oftener they persisted in returning again and again, so soon as remedial or prudential measures were intermitted. It was universally remarked that an amount of abdominal disturbance, such as at other times would have occasioned no anxiety, and scarcely have claimed any attention, was followed by marked debility; patients recovering their strength slowly even after a slight attack." Now, if continued observation, he went on to say, should show that in these cases of comparatively mild abdominal disturbance the special cause of cholera was present, it would go very far toward satisfactorily explaining the spread of the disease.

There were, however, other facts in connection with the epidemic at Buffalo, in 1849, which it was not very easy to reconcile with the hypothesis of personal communicability. Thus, of the two public institutions at which cholera patients were treated, at the Hospital of the Sisters of Charity not a single one of the nurses in attendance contracted the disease, and at the City Hospital only three took it.

In regard to many of the questions proposed by Dr. Janeway, he was not prepared to state a positive opinion; but there were one or two practical points upon which he should like to say a word or two. The successful treatment of cholera consisted in controlling the premonitory symptoms, and this was a matter upon which he had laid special emphasis in his report of the Buffalo epidemic, as would appear from the following: "Now, with reference to these premonitions, the following important facts have been impressed by the experience of the late epidemic in this city: If they lead the patient to resort to proper prudential measures and simple medication, cholera very rarely becomes developed. During the period that the epidemic prevailed, we, as well as our brethren generally, were prescribing daily for great numbers of individuals affected with *premonitory symptoms*, yet we were so fortunate as to have but ten cases of cholera in private practice. . . . That the disease was averted in many of the hundreds of cases in which the premonitory symptoms were presented in varied shades of severity, we cannot doubt, although it is, of course, a matter not susceptible of positive proof. In so far as we are acquainted with the observations of our professional brethren, they corresponded with ours in this respect, *that scarcely in any instance in which premonitory symptoms received due attention was cholera developed.* In the vast majority of the cases coming under our observation at the hospital, the premonitory symptoms had received no attention, either in the way of medical treatment or ordinary prudence. It follows that the disease may with great certainty be averted in the vast majority of cases, if premonitory symptoms precede its development; and we know the latter to be the general law of the disease, although not without exceptions. Hence, a person resolved not to neglect the earliest prodromic symptoms, but to resort to appropriate measures of prevention, and not entertain much apprehension of an attack of epidemic cholera." This, then, was certainly a point of great practical importance. If all cases were treated at once by means of rest and such opiates as were required, cholera would not develop, and, as connected with this matter, the importance would be seen of having house-to-house visits made by sanitary inspectors at all times when cholera was likely to make its appearance, as well as after it had already done so. The diarrhœa which usually preceded cholera was so painless and slight that it was almost impossible to make people believe that it could be the precursor of that disease. When there was any cholera in a community, therefore, it could not be too strongly recommended that every family should be visited every day and have the inquiry put to it whether any of its members were affected with diarrhœa. Such a course of action on the part of the health authorities would undoubtedly divest the disease of a large share of its fatality.

Dr. S. S. Purple said that he had had some official experience with cholera in New York, in 1849, and he recalled, with great distinctness, the origin of the epidemic. The first cases were brought in on the ship "New York," which arrived at quarantine on the 2d or 3d of December, 1848. Up to December 31st the disease was confined entirely to the quarantine buildings on Staten Island, and there were 61 cases with 34 deaths. Dr. Sterling, who was then in the Office of the Commissioners of Emigration, reported that from January 1 to May 1, 1849, over 55,000 passengers arrived at the port, and during the months of January, February, and March there were occasional cases of cholera on the islands in the East River, but none occurred in the city until the 11th of May. On that day Dr. F. Harriott, Visiting Physician of the New York City Dispensary, with which Dr. Purple was then connected, reported that he had met with what seemed to be two cases of cholera in a house in the rear of "Hog-pen Alley," which ran back from Orange Street, now called Baxter Street, in the neighborhood of the Five Points. The house stood in a filthy court, about 200 feet by 50 feet in size, which contained a number of pig-sties, and there was at that time no sewerage in the whole district. For the first twenty days there were about fifty cases, but afterwards the spread of the disease increased with great rapidity, and during the year 1849 there were no less than 5000 deaths from it. It was the prevailing idea among the physicians of the day that it was not contagious or infectious. The lessons of such an epidemic, he thought, should not be lost upon us at the present time, clearly indicating, as it did, the necessity for thoroughly cleaning and purifying the city at the earliest moment. The fact that cholera was allowed to exist in the vicinity of New York from the early part of December until the following May, without any attempt being made to put the city in as good a sanitary condition as possible, was in all probability the reason why the city was visited with such a severe epidemic.

DR. JOHN DWYER regretted that, in the discussion, something had not been said about the pathological appearances found after death in cases of cholera. In 1866 he had treated 300 cases of the disease, of which about one-half proved fatal. He made twenty-five autopsies, and in all of them he was struck with one peculiarity, viz., that the gall-bladder was nearly full. On Ward's Island, where he was living at that time at the Emigrants' Hospital, the disease was directly traceable to a female nurse who came there from quarantine. Dr. Janeway had stated that the period of incubation was from two to five days; but the first case that occurred on the island was taken within twelve hours after the arrival of this woman. The day following (and within twenty-four hours after her arrival) an infant was seized with the disease in addition. In the case of two pregnant women who died of cholera, on one of whom the Cæsarean section was performed immediately after death, both the children also perished. The treatment of the disease, he thought, was far from satisfactory, and, although, he had been through three epidemics of it, one in Ireland, one on shipboard, and, one on Ward's Island, he said he confessed that he did not know any more about it than he did twenty years ago.

DR. JANEWAY said that the premonitory diarrhœa was probably due to the irritation caused by the bacilli. In regard to the distended condition of the gall-bladder referred to by Dr. Dwyer, he thought that the explanation of it was, perhaps, that in consequence of the drain of liquids from the system, the bile became so thick and inspissated that it would not flow out freely.

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, December 1, 1884.

THE VICE-PRESIDENT, S. W. GROSS, M.D.,
IN THE CHAIR.

DR. WILLARD reported the following case of

TRACHEOTOMY FOR DIPHTHERIA.

W. R., male, æt. 7½ at present time. The patient was shown to demonstrate the absence of stenosis in the trachea, even after the removal of a circular piece. When first seen, three and a half years ago, he was in the condition of extreme dyspnœa, the attack having assumed a serious aspect only two hours previously. Owing to the fact that but little feverishness had preceded the severe paroxysm, that there was but slight induration in the cervical glands, and no patches in the fauces, and that the child had slept well during the night, and especially in view of the existence of stridulous inspiration and expiration, combined with almost total loss of voice and a dry, croupy cough, the case was, even at the time of operation eight hours later, considered to be one of membranous croup. The appearance, however, during the next eight days of seven cases of diphtheria among his family and attendants, together with the diphtheritic deposit upon the lips of the wound, proved that the case had been one of diphtheria, suddenly involving the larynx and trachea.

The expression was anxious; there was decided recession of the præcordia at each attempt at respiration, and the face, during the more violent paroxysms, became blue and congested, the eyes staring, and the struggling for air most intense. Two hours later, in spite of leeching, ice, and hot fomentations, lime vapor, and the rapid administration of calomel, morphia, belladonna, and the bromides, every symptom was worse. The child was constantly fighting for air, and inspiration and expiration were performed imperfectly after the greatest effort, although the lungs were clear. Two hours later an apparent change for the better was noted; but at 8 P.M. all the symptoms became alarming to the highest degree, and the exhaustion was so great that no further delay could be considered. The whole energy of the child was concentrated upon the effort to secure even a trace of air, which seemed to penetrate only to the apices. The sternum was indented, and the chest so flattened at each respiration, that the xiphoid seemed almost to touch the bodies of the vertebræ. The child was so poisoned from non-aeration of his blood that no anæsthetic was required, the patient scarcely feeling even the incision in the skin.

No difficulty was experienced during the operation, the removal of the circular piece being easily accomplished; although if the tenaculum be not well fixed, the fragment may easily be sucked into the trachea. The section cut away was from the second and third rings, and was about one-quarter of an inch in diameter, just large enough to admit easily the ordinary child's silver tracheotomy-tube. Following the choking and coughing incident to the introduction of the tube, blood-stained mucus was ejected, but no membrane. The lungs expanded but slowly, but in ten minutes respiration was normal, and after an enjoyable glass of milk the child was sleeping peacefully, the cyanosed skin soon assuming its natural hue, and all cough ceasing. Silk sutures were used, as my experience in previous cases had shown me that the stiff silver points often inflicted suffering on the patient by being caught or pressed upon during the manipulations required for cleansing the parts. The slumber was quiet and unbroken until almost morning. An intelligent father and aunt were the only nurses from the first, and soon became very adept in seizing each portion of mucus as it was coughed from the orifice, a camel's-hair brush being employed for the purpose. Freshly wet carbolized gauze was kept constantly over the opening, and lime vapor frequently propelled over the child's neck, alternating with vinegar steam.

The next morning the pulse was 140, but every symptom was good, the skin was moist, the cough slight, and the patient smiling. Stoppage of the opening at once caused a return of all of yesterday's dyspnœa, with recession of the sternum. The mucus was not stained, and no membrane had been ejected. The outer tube was usually easily freed by several removals and insertions of the inner one, and the tenacious gluey mucus collecting beyond its extremity was released and coughed out by simply carrying a light, stiff feather a little beyond the point.

On the fourth day the wound was covered with a gray diphtheritic deposit, but the child was bright and lively. The outer tube was frequently removed for cleansing, the excised piece of the trachea giving abundance of room for breathing for a few minutes; but even with this opening but a short time was required for little flaps of fatty tissue to fall into the gap, and the difficulty of respiration called for reinsertion. The projection on the tube causing considerable irritation in the wound, a thin plate of sheet lead was slipped beneath it, which effectually protected the tissues.

On the seventh day the child could whisper quite plainly, and on the sixteenth talked plainly with finger over the orifice. The tube was removed on eighteenth day, although it had been inserted not more that three-quarters of the time after the fourteenth.

Not an unfavorable symptom recurred during the treatment, a fact which I have been inclined to attribute in part to the extremely high temperature which prevailed at the time. On the night of the operation the thermometer stood at 90° F. until morning, and was not below 80° during the entire course of the treatment. This fact impressed itself so strongly upon my mind that I have since invariably kept my tracheotomy cases in an atmosphere above 80°, when possible.

The wound closed perfectly at the end of a month, and the child has never been sick since. He can talk perfectly, plainly, and naturally, can shout as loudly as his companions, and has no cough; in fact, he has not even had an ordinary cold during the period mentioned —three and a half years. The space in the trachea appears to be filled with fibrous tissue, firm pressure upon which at once causes him distress in breathing, but no contraction or narrowing at any point can be discovered.

Just three years later, I tracheotomized the child's cousin, of the same name, for diphtheria; and although the case did admirably for the first twenty-four hours, yet death occurred twelve hours later, from extension of the disease below the wound.

NEW INVENTIONS.

A PORTABLE ANTISEPTIC DRESSING.

By CHARLES MEIGS WILSON, M.D.,

LECTURER ON OBSTETRICS AND GYNECIC SURGEON TO THE PHILADELPHIA LYING-IN CHARITY.

Mr. Genois, of the firm of John Wyeth & Co., has had made for me compressed tablets of corrosive sublimate, each of which, when added to a pint of water, will make a millesimal solution. The tablets contain 7.3 grains of corrosive sublimate, and 12.7 grains of *ammonium chloride*. The *ammonium chloride* hastens solubility, and makes a stable solution, by preventing the decomposition of the bichloride and the deposition of calomel. To those medical men who desire to use this, the safest and best antiseptic agent, the tablets will prove of great use; they save the carrying about of bulky solutions; they make a solution which is mathematically correct as to its strength; they eliminate an element of danger, because the physician can carry the tablets about with him, making and using the solution when required, and throwing the unused portion away, thus avoiding the necessity of leaving a dangerous poison in the hands of irresponsible or ignorant people, or the necessity of bringing his solution at each visit; they will also be of use as a means of preparing disinfectant solutions, as a large amount of disinfecting material can be obtained in this way in a compact form.

Each tablet contains the requisite amount of corrosive sublimate to make a 1 to 1000 solution when added to a pint of water, which is the ordinary strength employed. By adding to or reducing the amount of water the strength of the solution may be increased or diminished at pleasure.

For example:

One tablet to Oj = 1 in 1000.
One tablet to Oss = 1 in 500.
One tablet to Ojss = 1 in 1500.

NEWS ITEMS.

WASHINGTON.

(*From our own Correspondent.*)

Prevention of Cholera.—On Friday, December 19th, Mr. McAdoo, by unanimous consent, introduced a joint resolution (H. Res. 304), to appropriate a sum of money for distribution and expenditure, under the direction of the Secretary of the Treasury, to prevent the entrance and spread of cholera in the cities surrounding the port of New York; which was read a first and second time, referred to the Committee on Appropriations, and ordered to be printed. The sum to be appropriated is said to be $250,000.

December 18th, Mr. Beach presented to Congress a memorial relative to the National Board of Health, as follows:

To the Senate and House of Representatives of the United States:

Your memorialist would respectfully represent that for the prevention of the introduction into this country of Asiatic cholera and other diseases dangerous to the public health, and their spread from one State into another, there is needed thorough organization of health boards, local, State, and National, and such a system of prompt notification from foreign ports and between such boards as shall cause all health authorities throughout this country to act in harmony for the prevention and restriction of such diseases. Recognizing, therefore, the continued necessity for a National Board of Health to discharge those functions in health matters which belong to the General Government, and which cannot be done by the individual States, the accompanying bill is respectfully presented by the National Conference of State Boards of Health for the consideration of Congress.

* * *

YELLOW FEVER IN MEXICO.—For the month ending November 30th, there were reported four deaths from yellow fever, at Guaymas, Mexico.

SMALLPOX IN LONDON.—During the week ending November 15th, there were 43 deaths from smallpox in London.

DISINFECTION OF RAGS.—The Secretary of the Treasury has just issued a new circular concerning the importation of old rags, which modifies all previous orders. Under it no old rags, except those afloat on or before January 1, 1885, on vessels bound directly to the United States, shall be landed in the United States from any vessel, nor come into the United States by land from any foreign country, except upon disinfection at the expense of the importers, as provided in this circular, or as may hereafter be provided. Either of the following processes will be considered a satisfactory method of disinfection of old rags, and will entile them to entry and to be landed in the United States upon the usual permit of the local health officer, viz.:

1. Boiling in water for two hours under a pressure of fifty pounds per square inch.
2. Boiling in water for four hours without pressure.
3. Subjection to the action of confined sulphurous acid gas for six hours, burning one and a half or two pounds of roll brimstone in each 1000 cubic feet of space, with the rags well scattered upon racks.
4. Disinfection in the bale by means of perforated screws or tubes through which sulphur dioxide, or superheated steam, at a temperature of not less than 330°, shall be forced under a pressure of four atmospheres, for a period sufficient to insure thorough disinfection.

Old rags may be landed and stored at such places as may be approved by this Department for the purpose of undergoing any of the processes of disinfection beforenamed, and upon the completion of such process to the satisfaction of an inspector of customs and the local health officer the rags may be delivered to the importer or consignee. Old rags may be subjected to disinfection by either of said processes in any other country where this department may appoint an inspector to superintend the same, whose certificate of such disinfection shall be anthenticated by a United States consular officer, according to Department circular No. 61, of April 22, 1884.

M. PASTEUR has gone to Brazil to study the microbe of yellow fever, in connection with Dr. Domingos Freire.

OBITUARY RECORD.—EDWARD JARVIS, M.D., of Dorchester, Mass., died, on October 31st, in the eighty-second year of his age. He was born in Concord, Mass., graduated from both the Academic and Medical Departments of Harvard College, and commenced the practice of his profession in Northfield in 1830. In 1832 he moved to Concord, where he remained until 1837; then moved to Louisville, where he practised until 1842, when he settled in Dorchester, and remained until his death. Whilst in Louisville he became deeply interested in the public school question, and finally succeeded in introducing the system then common in Massachusetts. About this time also he commenced to devote himself to the study of insanity, and pointed out many of the evils in the asylum treatment in so clear and forcible a manner that many of his suggestions for its improvement were adopted. He was the earliest petitioner to the Massachusetts Legislature for a State Board of Health, and supported it by his zealous work as earnestly as he had worked for its establishment. He was a voluminous writer, his subjects particularly relating to idiocy, intemperance and mortality, hygiene, vital statistics, and insanity, in all its relations. He was a member and President of the American Statistical Society; member of the American Academy of Arts and Sciences, of the American Philosophical Society, American Antiquarian Society, of the American Association of Superintendents of Insane Hospitals, of the London Statistical Society, the British Psychological Society, and of the British Association for the Advancement of Social Science.

NOTES AND QUERIES.

RESOLUTIONS OF THE PENNSYLVANIA COLLEGE OF DENTAL SURGERY ON THE DEATH OF DR. S. D. GROSS.

AT a special meeting of the corporators of the Pennsylvania College of Dental Surgery, held December 9, 1884, the following resolutions were unanimously adopted.

Whereas, Our late President Samuel D. Gross, M.D., LL.D., D.C.L. Oxon., LL.D. Cantab., has been removed from us by death, we desire to express our sentiments of regret upon the great loss our institution has sustained.

Therefore be it Resolved, That in our intercourse with him we recognized a courteous bearing, and a broad humanity, which crowned and beautified his scholastic and scientific accomplishments, so well befitting his profession.

Resolved, That we hereby tender our sincere sympathy and condolence to his family; that these resolutions be published in the *Dentol Cosmos* and THE MEDICAL NEWS, and a copy transmitted to his family.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

INDEX.

ABDOMEN, foreign bodies in, after laparotomy, 406
  sutures of, 214
Abdominal injury, unique, 372
  section, 337, 483, 512
    value and range of application of, 408
  wall, abscess of, 330
Abortion, criminal, management of, 583
  treatment of, 130, 634
Abrus poison, 161
Abscess, chancrous lpmphatic, 124
  cold, glycerite of iodoform in, 491
  micrococci in relation to, 488
  pelvic, 359
  psoas, diagnosis between, and aneurism, hernia, and malignant disease, 225
Absorption, mechanism of, 362
Acetabulum, fracture of base of, 608
Acetonæmia, 162
Acetone, new tests for, 162
Acne and acne rosacea, treatment of, in the male, 270
Aconite, action of alkaloids of, on heart, 543
Adams, John G., medical bequests, 308
Adenolymphangitis, uterine, 387
Adipocerous transformation, 194
Air of rooms occupied by phthisical persons, infectiousness of, 320
Albinism, 169
Albumen or albumin, 242
  reactions of, 122
Albuminuria, false, 611
  in strangulated hernia, 513
  intermittent, 715
  in urine, testing for, 680
  nervous, 496
  preceding hemoglobinuria, 690
Alopecia, 170
  areata, 170
Amaurosis, uræmic, 150
Amblyopia, electrical reaction of optic nerve in, 377
Ambulance, rapid transit, 389
American Academy of Medicine, 476
  Dermatological Association, 224, 269, 296
  Gynecological Society, 405, 437
  Notes, 645
  Ophthalmological Society, 103
  Otological Society, 98
  Public Health Association, 140, 364, 391, 500, 641, 704
Amputation, double synchronous, 605
Amputations, capital, statistics, 374
Anæmia, blood-corpuscles in, 270
  changes in nervous apparatus of intestinal walls in, 377
Anæsthesia, rectal, 65
Anatomical Act, Pennsylvania, 658
Aneurismal tracings, sphygmographic, as diagnostic signs, 541
Aneurism, aortic, treatment of, 512
  diagnosis of, 225
  femoro-popliteal, 334
  ligature in treatment of, 479
  thoracic 333
Angel-wing deformity, 19
Ankle, dislocation of, outwards, 459
  resection of, 662
Ankylosis, resection of head of humerus for, 512
Antipyretic treatment, 400
Antipyrin, 128, 625
  in diseases of children, 655
Antiseptic dressing, permanent, 264, 279
    portable, 727
  treatment of wounds in time of war, 389
Antrum, diseases of, 317
Anus, fistula of, thermo-cautery for, 10
  imperforate, 720
Aorta, coarctation of, 628
Apparatus for recording changes of volume, 362
Arachnoid, cystoid degeneration of, 238
Arm, recurring carcinoma of, 494
Army, hygienic protection of, 389
  Medical Department, changes in stations and duties, 28, 56, 84, 112, 140, 196, 224, 252, 280, 308, 336, 364, 392, 420, 448, 476, 504, 532, 560, 588, 612, 644, 674, 706
Arteritis, syphilitic, curability of, 686
Artery, subcutaneous wound of, gangrene after, 92
Ascites, essential, 94
Ashhurst, diagnosis of psoas abscess, aneurism, hernia, and malignant disease, 225
Astigmatism, hypermetropic, passing into myopia, 110
Astragalus, abscess of, 703
  removal of, for fungous disease, 67
  resection and extirpation of, 209
Atropia cutis, 169
Atropine in acute otitis, 238
Auricle, tumors of, 102
Auricles, functions of the, 605
Auscultatory sounds, universal nomenclature for, 273
Authors and publishers, useful hints to, 661
Axilla, lymphomata of, 219
Axis-cylinders, condition of, in multiple sclerosis, 237
  swollen, in the cord, 237
Azoospermism, 703

BABCOCK, dexiocardia, 452
Bacteria, staining in sections, 301
Bailhache, Surgeon, 704
Bartholow, action and uses of permanganate of potassium, 566
  chloride of gold and sodium in nervous affections, 118
  typho-malarial feyer, 281
Baths, public laundries and, 380
Beer drinking and heart disease, 11
Bellevue College laboratory, 195
  Hospital Medical College, 532
Bemiss, S. M., obituary notice of, 588, 639
Berlin laboratories, 306
  University of, 504
Bigelow, galvanic current in salpingitis, 286
Bigelow's operation, 80
Billings, Dr., 28
Blackader, congenital hypertrophy, with hypertrophy of foot, 328
Blackmailing, 215
Bladder, carcinoma of, 80
  removal of cancerous tumor from, 513
    of lead-pencil from, 550
  resection of, 38
  rupture of, 183
    of, laparotomy, 550
  stone in, cider and, 93
  tumors of, cystotomy, 550
Blindness from brain tumor, 102
  fulminant, in neuro-retinitis, 105
  hysterical monocular, 105
      cured by mental impression, 596
Blood, coagulation of, 360
  disks, red, formation in lymphatic glands, 631
  maternal, passage of solid particles from, to fœtal, 241
  of limulus polyphemus, 360
  transfusion of, 580
Bones, tuberculosis of, ignipuncture in, 227
Bonisson, obituary notice of, 140
Borden, cystic degeneration of choroin, 703
Bosworth, the three tonsils, 413
Brachial artery, subcutaneous ligation, 400
Brain, abscess of, drainage of, 129
    trephining for, 81
  excision of tumor from, 714
  phantom, 418, 718
Braun, Professor, 336
Breathing, aquatic, 362
  buccal, 334
Breech cases, 610
Bright's disease, dyspnœa in, 333
British Association for the Advancement of Science, 360
  Medical Association, 140
Bronchitis, endo- and peri-, tubular, 595
Broncho-pneumonia, pathology of, 535, 552
Brown Institution, 195
Bryant, guiding principles of operative surgery, 477
  improved method of performing colotomy, 277
Buckler, obituary notice of, 280
Bull, rupture of bladder, with fractured pelvis, 550
Buller, jequirity in granular ophthalmia, 335
Buller's shield, improvement, 376
Burnett, reflex aural phenomena from naso-pharyngeal catarrh, 88
Burns, their results, 332
Byrd, trephining for insanity, 119

- CÆCUM, excision of, 600
- Cæsarean section, 686
    - and its modifications, 384
- Calculus, large, removal of, 614
- Canada, climate of, 363
  - Medical Association, 328
- Canadian medical schools, 641
- Callositas, 86
- Cancer, limits of vaginal hysterectomy for, 437
  - of stomach, 576
- Canned goods, dangers of, 641
- Cantharidin, pharmacology of. 238
- Carmalt, cocaine in minor surgery, 585
- Carotid aneurism, double, ligation, 655
  - ligation of, 398, 514, 655, 686
- Carotids, both, ligation of, 268
- Cartwright prize, 336
- Castle, effect of cocaine on accommodation, 622
- Cataract, natural history of, 106
  - operations, peculiar, 376
  - operative treatment, 373
  - ripening of, 97
- Cephalhydrocele, traumatic, 69
- Cerebral hemispheres, bullet wound of, 543
- Cervical needle, new, 585, 616
- Cervix, laceration during labor, 207
  - rapid dilatation of, 444, 558
  - therapeutics of erosions of, 512
- Chamberlain, C. W., obituary notice, 252
- Charity Hospital Training School, 586
- Chauveau, possibility of human tuberculosis from animal tuberculosis, 304
- Chicago County Insane Asylum, 614
  - Gynecological Society, 529, 634
  - Medical College, 586
    - Society, 191
  - Public Library, medical department in, 641
- Childbirth, pain in, 546
- Children, growth of, 363
- Chloasma, 85
- Chlorine and its combinations, 342
- Chloronæmia, citrate of iron in, 36
- Chloroform, death from, 346
- Cholecystotomy and cholecystectomy, 687
- Cholera, 40, 56, 69, 111, 223, 239, 722
  - are we prepared for it? 573
  - at Marseilles, 530
  - at Suspension Bridge in 1854, 554
  - bacilli, Koch's method of cultivating, 364
  - bacillus, 434
    - doubts concerning, 504
    - inoculation of, 432
    - investigation of, 504
    - Koch on, 195, 221
    - successful inoculation of, 336, 518, 529
  - bearing of general sanitation on possible invasion, 360
  - Commission, at Naples, 502
    - English, 168, 476, 644
    - French, in Egypt, 476
      - in Italy, 504
    - Marseilles, report of, 446
  - conference at Berlin, 221, 243, 266, 292
  - disinfection, 127
  - epidemic in 1866, 669
  - germs, last thing in, 364
  - germ theory of, 191
  - in Calcutta, 000
  - in Cuba, danger of, 447
  - in France, 137, 447, 474, 674
    - in 1884, 532
  - inhalations of oxygen in, 37
  - in Naples, 560
  - intravenous injection for, 400
  - invasion, 586
  - items, 532, 674
  - Koch on, 80
    - parasitic doctrine of, 497
  - Koch's latest researches on, 601
    - views on, Pasteur's criticism of, 139
- Cholera, mortality at Marseilles, 308
  - nature of, and precautions against, 251
  - nostras, 349
    - and cholera, non-identity of bacilli, 530
    - and the comma-bacillus, 296
    - perhaps identical with Asiatic, 431, 434, 529
  - notes, 137
    - on the Continent, 139
  - old rags *vs.*, 604
  - on vessels at sea, 363
  - outlook, 159
  - pathology of, 191
  - precautions, 82, 83, 111, 112, 137, 168
    - in England, 280
    - in Germany, 168
    - in Italy, 168, 420, 446
    - in the United States, 139, 167
  - preparing for, in Paris, 167
  - prevention of, 95, 727
  - progress of, 28
  - prophylaxis of, 192
  - prospects, 642
  - quarantine, Paris Academy on, 167
  - remedies at Toulon, 247
  - situation, Chicago conference on, 136
  - subcutaneous injections for, 320
  - symptomatology of, 193
  - treatment of, 191
- Chorion, cystic degeneration of, 524, 703
- Choroid, rupture of, 6
- Chromic acid in nasal, pharyngeal, and laryngeal disease, 123
- Chromidrosis, unilateral, 270
- Churchill, Fleetwood, obituary notice, 392
- Cider, and stone in the bladder, 93
- Cincinnati Academy of Medicine, 576
  - Board of Health, 194
  - health of, 587
  - Medical Society, 524
- Clark, cocaine in eye surgery, 570
- Clavicle, luxation upward and forward of sternal end, 350
- Clavus, 86
- Climate of Canada, 363
- Clot, do not turn out, 435
- Coagulation necrosis, 299, 351
- Cobra poison, nature and action of, 685
- Cocaine, as local anæsthetic, 455, 457, 468, 489, 502, 509, 559, 570, 587, 599, 614, 616, 654, 713
  - effect on accommodation, 622
  - excitement, 528
  - hypodermic use, 651
  - in laryngeal phthisis, 540, 597
  - in minor surgery, 585
  - in nasal affections, 678
  - in ophthalmic practice, 508, 510, 609, 654
  - therapeutic action, 613, 628
- Cocks, cocaine, as local anæsthetic, 455, 654
- Cohen, continuous inhalation. 396
  - electric illumination for laryngoscopy, 81
  - erythroxylon coca in the throat, 540
  - local manifestations of laryngeal tuberculosis, prognostic value, 203
- Cohnheim, obituary notice of, 308
  - the late Prof., 644
- Cold, taking, 608
- College of Physicians and Surgeons, Chicago, 586
- Colorado State Medical Society, 27
- Color-blindness in Tallapoosa case, 242, 268
- Colotomy, lumbar, improved method of operating, 277
  - modified, 242
- Colvin, venesection in puerperal convulsions, 607
- Conia, hydrobromate of, in epilepsy, 38
- Conjunctiva, tuberculosis of, 67
- Conjunctivitis, acute, hydrochlorate of quinia in, 376
  - purulent, 376
- Conjunctivitis, scrofulous, treatment of, 347
- Contagious diseases, introduction into the country, 691
- Contagiousness, duration of, after acute infectious diseases, 583
- Convallaria in heart disease, 583
- Convolution, marginal, functions of, 361
- Copies, lithographic, 492
- Copulation without emission, does it injure female health? 240
- Cord, spermatic, cyst of, hæmatocele, 209
  - spinal, swollen axis-cylinders in, 237
- Cornea, conical, treatment of, 376
- Cornu cutaneum, 86
- Corpus luteum, 463
- Correction, 420
- Corrosive sublimate as a surgical dressing, 279, 545
    - injections, risks of, 181
    - in ophthalmology, 209
    - permanent solution, 544
- Cough, remarkable case of, 235
- Cowper's glands, abscess of, 124
- Crothers, inebriety from injuries of head, 204
- Croup, diphtheritic, 612
  - membranous, medicinal treatment of, 74
  - tracheotomy in, 32, 156
- Crowner's quest, 641
- Cuba, health of, 704
- Curette, its place in uterine therapeutics, 610
- Customs, other lands—other, 354
- Cystitis, dilatation of female urethra for, 600
  - treatment of, 184
- Cysto-sarcoma of hip, 522
- Cystotomy, suprapubic, 157

- DABNEY, therapeutic action of cocaine. 613
- Da Costa, cocaine hypodermatically, 651
- Dacryo-adenitis, 109
- Dartmouth College, 588
- Deaf-mutes, instruction of, 400
- Deaf-mutism, etiology of, 400
- Deafness from brain tumor, 102
  - in syphilitic tabes, 93
  - syphilitic (?), iodide of sodium or potassium in, 101
- Delafield, pathology of broncho-pneumonia, 534
- Denmark, King of, address to, 504
- Dental nerves, tearing of, in neuralgia, 504
- Dermatalgia, 313
- Dermatitis, 31
  - from contact with arsenic, 270
  - herpetiformis, relation to impetigo herpetiformis, 296
    - aggravated by pregnancy, 63
    - relation to herpes gestationis, 570
- Dermatology, course of lectures on, 29, 85, 169, 505
- Dermatolysis, 87, 92
- Dexiocardia, 452
- Diabetes mellitus, 612
- Diarrhœa, cider vinegar in, 166
  - fatty, in children, 571
  - from disease of the pancreas, 606
  - summer, of children, 14
- Diet, varying, secretion of oxalic acid under, 362
- Digitaline, amorphous, effects of, 66
- Digitalis, action of, in febrile temperature, 511
- Diphtheria, 587
  - sanitary management of. 587
  - tracheotomy in, 156, 726
- Diphtheritic microbes, culture of, 304
- Disease, a factor in the prevention of, 517
  - collective investigation of, 462
    - before International Medical Congress, 472
- Diseases, industrial, 492
- Disinfectants, 511, 691
- Dislocations of hip, reduction of, 513
- District Associations, organization of, 581
- Diuretic, water as a, 124

- Diverticulum, Meckel's, abscess extending from, 330
- Drainage-tubes in pleural cavity for eighteen months, 496
- Dugas, obituary notice of, 476
- Duhring, Dr. L. A., 644
  - dermatitis herpetiformis, 296, 376
    - aggravated by pregnancy and menstruation, 63
  - lectures on dermatology, 29, 85, 169, 309, 505
  - relation of dermatitis herpetiformis to other similar forms of disease, 576
- Dujardin-Beaumetz, treatment of rheumatism and gout, 421
- Dumas, statue to, 196
- Dysmenorrhœa, rapid dilatation of cervix for, 558
- Dyspepsia, dietetic treatment of, 584
- Dyspnœa in Bright's disease, 333
- Dysenteric symptoms, cider vinegar in, 166
- Dystocia from cervical fibroids, 411

- EAR, middle, chronic suppuration of, dry treatment, 22
  - reflex phenomena of, from naso-pharyngeal catarrh, 88, 103
- Ecchymoses, subcutaneous, of nervous origin, 380
- Echinococcus of spleen, 156
- Eclampsia, recent views on, 658
- Ecthyma, 30
- Ectopia vesicæ, 350
- Education, medical, free, 356
- Elbow-joint, excision of, 721
  - osteoplastic resection of, 661
  - partial resection of, for tuberculosis, 662
- Electrical Exhibition, International, 324, 354, 382, 404
  - reaction of optic nerve as a means of diagnosis, 377
- Electric treatment of uterine myomata, 383
  - of perimetritis, 388
- Electrolytic puncture, destruction of uterine tumors by, 383
- Elephantiasis arabum, 87
- Emmenagogue, albuminate of iron as, 400
- Emmet, Dr., injustice to, 548
- Empyema, Estlander's operation, 329
  - in childhood, treatment, 543
  - respiratory irrigation in, 26
- Endobronchitis, tubular, 575
- Entropion, Burrows's operation, 376
- Epilepsy, bromate of potash in, 718
  - cornea in, 38
  - sclerotinic acid in, 67
  - traumatic, trephining in, 188
- Epulis, large, removal of, 570
- Ergotine in delirium tremens, 432
- Erysipelas, intrauterine communicability of, 659
  - iodoform in, 93
- Erythromelalgia, 717
- Estes, unique abdominal injury, 372
- Ether-death from heart failure, 345
- Ether, subcutaneous injections of, 458
- Etherization, rectal, 35, 72, 135, 193, 358
- Ethmoidal disease from chronic naso-pharyngitis, 102
  - sinus, abscess of, 108
- Exophthalmos, 102
- Eye, changes in, after death, 108
- Eyelid, gangrene of, 104
  - Wolfe's method of restoration, 104

- FALLOPIAN tubes, diagnosis and treatment of disease of, 542
  - removal of, 315
- Fat embolism, 239
- Feet, perspiration of, 184
- Femoral artery and vein, wound of, ligation, 633
- Femoral artery, ligation of, 3
  - puerperal thrombosis of, 716
- Femora, spontaneous fracture of, 549
- Femur, evacuation of, 627
  - extracapsular fracture of, 663
- Fenwick, abscess of abdominal wall, extending from Meckel's diverticulum, 330
- Ferguson, laceration of cervix during labor, 207
- Fever, relapsing, in Egypt, 690
  - thermic, 389
  - typhoid, among soldiers, 389
- Fibroids, cervical, causing dystocia, removal of, 409, 411
- Fibroid, submucous and interstitial, 53
- Fisher, Dr. J. C., 224
  - hæmaturia during typhoid fever, 429
- Fisk, Samuel A., obituary notice, 588
- Flint, Dr., Jr., 528
  - address, 602
  - medicinal and non-medicinal therapeutics, 589
  - parasitic doctrine of epidemic cholera, 497
- Foods, adulteration of, 501
  - branny, nutritive value of, 42
- Forceps as speculum and vaginal protector, 121
  - in head-last labors, 381
  - removal of, before delivery of head, 629
  - use of, as speculum, 194
- Forearm, backward dislocation of, 110
- Fox, ophthalmic hospitals of London, 375
- Fractures, compound, treatment of, 39
- Fracture, compound, of leg, ligation of anterior tibial artery, 331
  - of arm by muscular action, 420
- Friedenwald, uræmic amaurosis, 150
- Frontal sinus, abscesses of, 108, 172, 218
- Frambœsia, 311
- Fulton, thoracoplastic operation of Estlander, 329

- GAG, new, 279
- Gall-stone, surgical treatment of, 123
- Galvanic current in salpingitis, 286
- Gandy, adipocerous transformation, 194
- Gangrene after subcutaneous arterial wound, 92
  - of lungs, 211
  - sudden death from, 420
- Gannett, testing valvular insufficiency, 706
- Gaston, Dr. J. McF., 420
- Gastrostomy, 10, 154, 212, 223, 576
  - a danger in, 716
  - for stricture of œsophagus, 460
- Gay, tracheotomy in croup, 32
- Generalization, rapid, 248
- Genu-valgum, Ogston's operation for, 188
- Gerster, aneurism of subclavian, 660
- Gibbons, Henry, obituary notice of, 644
- Gibney, rachitic deformities of lower limbs, 636
- Girard, antipyrin, 625
- Glands, mediastinal, tuberculosis of, and purulent pericarditis, 213
- Glass vaginal dilators, danger of, 392
- Glans and prepuce, peculiar ringed affection of, 299
- Goitre, hyperplastic follicular, 549
- Gold and sodium, chloride of, in some nervous affections, 118
- Gonorrhœa, pathogenic microbes of, 187
- Gonorrhœal pus, micrococcus of, 426
- Goodwillie, diseases of the antrum, 317
- Goodell, nerve-counterfeits of uterine disease, 617
- Gout, rational treatment of, 130, 421
- Gravel, uric acid, treatment of, 130
- Grawitz, Prof., 704
- Greely Arctic Expedition, 265
  - party, condition of survivors, 260
- Green, report on condition of Greely party, 260
- Griswold, false albuminuria, 611
- Gross, S. D., professorship of pathological anatomy, 140
  - resolutions on death of, 728
- Gynecology, 27

- HÆMATEMESIS from ulcer of stomach, treatment of, 378
- Hæmatocele in a cyst of the cord, 209
  - suppurating, Tait's operation, 208
- Hæmatoma auris, ergot in, 102
- Hæmaturia during typhoid fever, 429
- Hæmorrhagiæ, 32
- Hair, atrophy of, 170
  - hypertrophy of, 86
- Halsted, resection of ankle, elbow, and shoulder, 662
- Hamilton, Asiatic cholera at Suspension Bridge in 1854, 554
- Hand, cirsoid tumors of, 268
  - deformity of, from cicatricial contractions, 548
  - lupus erythematosus of, 270
- Harlan, hysterical monocular blindness, cured by mental impression, 596
- Harrison, modern treatment of wounds, 356
  - section of prostate for obstruction, 278
- Hartshorne, rapid generalization, 249
- Hawkins, Cæsar Henry, obituary notice of, 112
- Haworth, statistics of capital amputations, 374
- Health Boards of Gulf States and Tennessee, 55
  - Committee, International, 694
  - Department, of United States, bill for, 693
  - legislation, 54
  - National Board of, 168
    - bill for, 704
  - State Boards of, National Conference of, 615, 690
- Heart-centre of Kronecker, 361
- Heart disease, beer drinking and, 11
    - chronic, and pregnancy, 155
    - convallaria in, 378
  - failure, ether-death from, 345
  - murmur heard in mouth, 333
- Hemiatrophia facialis, 87
- Hemicrania in tabes dorsalis, 628
- Hemorrhoids, treatment by crushing, 330
- Hepatitis, forms and courses of, 305
- Hermann, Professor, 504
- Hernia, diagnosis of, 225
  - femoral, perforation of a diverticulum, 91
  - radical cure, 353
  - strangulated, albuminuria in, 513
  - umbilical, strangulated, 219
- Heteroplasty, 183
- Hewett, Sir Prescott Gardiner, 224
- Hilsman, death from chloroform, 346
- Hip-joint, disease of, 113
- Hip, cysto-sarcoma of, 522
  - dislocation, unreduced, treatment of, 615
  - reduction of dislocations of, 513
- Hodgkin's disease, 19
- Homœopathy, home criticisms of, 615
- Hull, large doses of quinine in typhoid fever, 538
- Humerus, dislocation of, subspinous, 621
  - necrosis of, 219
  - resection of head of, for ankylosis, 512
- Hutchinson, extracapsular fracture of femur, 663
  - transfusion, 582
- Huxley, Professor, health of, 532
- Hydrophobia experiments, 123
  - Pasteur's experiments on, 236
- Hydrosalpinx, 27
- Hydrothorax, aspirator in, 605

- Hygiene in relation to the family, 326
  - of habitations of poor, 500
  - of occupations, 501
- Hypertrophy, congenital, 328
- Hysterectomy, 52
  - for cancer of uterus, 714
  - for multiple fibromata, 497
  - supra-vaginal, 457
  - vaginal, limits of, for cancer, 437
- Hystero-trachelorrhaphy, 469

- ICHTHYOSIS, 86
- Ignipuncture in tuberculosis of bones and joints, 227
- Ileum, gall-stone removed from, 236
- Iliac artery, ligature of, for aneurism, 613
- Impetigo, 29
  - herpetiformis, relation to dermatitis herpetiformis, 297
- Index Catalogue, 436
- Indiana State Medical Society, 19
- Inebriety due to head injuries, 204
- Infection, auto-, in childbed, 188
  - carriers of, in puerperal fever, 126
- Infectiousness of air of rooms occupied by phthisical persons, 320
- Inflammation, treatment of, 519
- Influenza, etiology of, 289
- Inhalation, continuous, 396
- Innominate aneurism, 399
- Inoculations, experimental, into anterior chamber, 67
- Insanity, causes, prevention, and treatment, 25
  - hints on the prevention of, 610
  - trephining for, 119
- International Medical Congress, 168, 185, 189, 213, 217, 271, 299, 383
    - inaugural address, 189
    - meeting in Washington in 1887, 446, 632, 642
    - Washington, what is expected of it, 223
      - organization of, 391, 560
  - Otological Congress, 371
- Intestinal obstruction, 358
  - walls, changes in nerves of, in anæmia and atrophy, 377
  - resection and suture, 236
- Intestine, mortification of, in strangulated hernia, 544
- Intestines adherent behind uterus, 157
  - surgery of, 264
- Intravenous injections, 321, 391
  - for cholera, 400
- Iodide of sodium or potassium in syphilitic (?) deafness, 101
- Iodoform in erysipelas, 93
  - exanthem, 306
- Iritis, chronic, iridectomy in, 103
- Iron, albuminate of, as an emmenagogue, 400
  - citrate of, in chloroanæmia, 36
  - subcutaneous injection of, 37
- Ixodes, a parasite but little known in the human body, 301

- JACOBI, treatment of croup, 74
- Jäger, obituary notice of, 140
- Jaggard, puerperal fever, from Vienna standpoint, 179
- Jarvis, Edward, obituary notice of, 728
- Jaw, ankylosis, false joint for, 699
- Jequirity, 106
  - infusion, effects of, 300
  - in granular ophthalmia, 334
- Joints, diseases of, conservatism and resection in, 216
  - diseases, tuberculous, relation to general tuberculosis, 610
  - gangliar disease of, 323
  - tuberculosis of, ignipuncture in, 227
    - excision and arthrotomy in, 279
- Jugular vein, ligation of, 514, 686
- Juniata Valley Medical Association, 56

- KAIRINE, physiological effects, 181
- Keen, abscesses of frontal and maxillary sinuses, percussion in diagnosis of, 172
- Kelly, anæsthetic action of cocaine, 713
  - death from a pessary, 430
- Keloid, 170
- Kerr, lithotomy and lithotrity in China, 152
- Kidney, congenital sarcoma of, 264
  - cystic, removal of, 675
  - excision of, 542
  - extirpation of, 93, 126, 707
  - rupture of, nephrotomy, 707
- Kidneys, alterations of, from uterine fibroids, 237
- Knee-joint, chronic articular osteitis, 90
  - exsection of, 493
- Koch declines Cohnheim's chair, 476
  - decoration of, by French Government, 196
  - on cholera, and the comma-bacillus, 221, 243, 280
    - bacilli and Pasteur's criticisms, 195
- Kolipinski, subpleural ecchymoses of the pericardium, 685
  - treatment of scrofulous conjunctivitis, 347

- LABIA minora, anatomy of, 323
- Labor, arrested, by rigor mortis of fœtus, 155
  - complicated by cancer of uterus, 510
  - laceration of cervix during, 207
  - third stage, management of, 386
- Labors, head-last, forceps in, 381
  - vertex, occipito-posterior position in, 438
  - management of, 638
- Laboratories, Berlin, 306
- Labyrinth, necrosis of, 103
- Laparomyomotomy, 10
- Laparotomy, 315
  - after rupture of extra-uterine pregnancy, 160
  - antiseptics in, 384
  - foreign bodies in abdomen after, 406
  - for perforations of intestines and stomach, 433
  - for ruptured bladder, 550
  - for uterine myomata, 383
  - for wound of intestine, 586
- Laryngectomy, partial, 41
- Laryngoscopy, electric illumination for, 81
- Larynx, chromic acid in diseases of, 123
  - cortical motor centre of, 488
  - extirpation of, 155, 211
  - button in, 157
  - tuberculosis of, local symptoms, 203
- Laundries, public, and baths, 380
- Lead poisoning, acute, 583
- Leale, Asiatic cholera in 1866, 669
- Leg, fractures of, treatment of, 21
- Lefferts, cocaine in laryngeal phthisis, 597
- Leiter, and the Vienna General Hospital, 552
- Lentigo, 85
- Leper district, excursion to, 56
- Lepers, proposed exhibition of, 162
- Lepra, 311
- Leprosy, Norwegian, 305
- Letiévant, obituary notice, 140
- Lett, the opium habit, 332
- Leukæmia, investigations of blood-corpuscles in, 273
- Levis, cocaine as local anæsthetic, 509
- Lewis, cocaine as an anæsthetic, 616
- Library, medical museum and, our, 516
- Lids, granular, 23
    - treatment, 376
- Life insurance among medical men, 641
- Lip, vascular tumor of, removal by clamp, 494
- Lipoma of foot, 328
- Litholapaxy, 322
  - in male children, 161
- Lithotomy and lithotrity in China, 152
- Liver, abscess of, 612
    - treatment, 541
  - cirrhosis of, new views on, 516
  - floating, 514
- Locomotor ataxia, venereal orgasm in woman in, 435
- London ophthalmic hospitals, 375
- Lunacy case, Mr. Richards's, 614
- Lunatic asylums of Quebec, 559
- Lungs, congenital syphilis of, 304
  - extirpation of, 212
  - gangrene of, 211
- Lupus erythematosus, 171
    - of hand, 270
  - vulgaris, 172, 305
- Lymphoma, malignant, arsenic in, 289
- Lymphomata, leukæmic, 699
  - malignant, 700
  - of axilla, 219

- MACCOY, remarkable case of cough, 235
- Mahomed, Dr., obituary notice of, 706
- Malaria, etiology of, 7
- Malarial fever in Richmond, 358
  - typho-, fever, 358
    - in Danville, 358
- Mallet, Professor, 292
- Malpractice suits, 20
- Mammary gland, male, tumor of, 164
- Marcy, inflammation of penis and scrotum, 456
- Marine Hospital Service, changes in stations and duties, 84, 448
- Markoe, recurring carcinoma of arm, 494
- Marsh, cystic degeneration of chorion, 524
- Mastin, prostatic calculi, 175
- Mastoid disease, trephining in, 542
  - process, indications for opening, 98
  - trephining, 332
- Mastoiditis interna chronica, 99
- Materia medica, modern progress of, 583
- Maternal blood, passage of solid particles from, to fœtal, 241
- Mauthner, Professor, 336
- Maxillary sinus, abscess of, percussion in, 172, 218
- Maxim, a changed, 403
- McGraw, malignant metamorphosis of diseased tissues, 283
- McKenzie, pathology of intranasal inflammation, 370
  - self-retaining nasal speculum, 639
- McSherry, chlorine and its combinations, 342
- Mears, cysto-sarcoma of hip, 522
  - pathological changes in trifacial neuralgia, 58
- Medical Associations, importance of, 25
  - journal, new, 336
  - legislation, 21
- Medicine, practice of, laws regulating, 630
- Medico-Chirurgical Society or Montreal, 718
- Melanæmia and melanosis, artificial, 631
- Meningocele, new method of operating, 487
- Mercur, statistics of capital amputations, 374
- Mercurial poisoning, chronic, 583
- Mercury, injection of, in syphilis, 306
- Michael, subspinous dislocation of humerus, 621
- Michigan State Medical Society, 21
- Microbes, 336
  - diphtheritic, culture of, 304
  - pathogenic, of gonorrhœa, 187
- Micrococci, in relation to wounds, abscesses and septic processes, 488
- Microörganisms, morbific, and vaccination, 301
- Midwives, women as, 610

Miliaria and sudamina, 298
Miller, etherization by the rectum, 72
Milk, cow's, as a vehicle of disease, 601
  decomposition of, 659
  peptonized, in summer diarrhœa of infants, 56
  secretion, effect of spaying, exercise, and medicines on, 40
Minnesota State Medical Society, 24
Miscarriage, frequent, 1
  urticaria as cause of, 233
Mollities ossium, infantile, 418
Molluscum epitheliale, 85
  fibrosum, 171
Morphœa, 87
Mother's marks, 26
Mundé, limits of vaginal hysterectomy for cancer, 437
Murdoch, new gag, 279
Muscles, resection of, in infantile paralysis, 10
Myeloid tumor of thigh, 718
Myofibroma basis cranii, causing blindness and deafness, 102
Myomotomy, 288
Myxo-sarcoma, 334

NÆVUS, cavernous, early use of knife in, 611
  pigmentosus, 85
Nail, surgical, 543
Nails, atrophy of, 170
Names, proper, mistakes in, 324
Naphthalin, action and uses, 332
Nasal, intra-, inflammation, pathology of, 370
  speculum, self-retaining, 639
Nasopharyngeal obstruction and hypertrophies, relation to hearing, 327
Necrosis by coagulation, 299, 351
Needle-swallowing, 93
Neoplastic diathesis, 303
Nephrectomy, 66, 94, 432, 707
  in an infant, 572
Nephritis, chronic, 303
Nephrotomy for rupture of kidney, 707
Nerve, inferior maxillary, excision for neuralgia, 000
  lingual, resection of, for neuralgia, 212
  median, secondary suture of, 156
  phrenic, functions of, 238
  suture, secondary, 515
Nerves, cardiac, of turtle, 361
  optic, hereditary atrophy of, 106
  vaso-motor, 94, 361
Nervous affections, gold and sodium in, 118
Neuralgia, facial, nerve vibration in, 628
  femoro-popliteal, diagnosis of, 458
  pathological changes in, 58
  resection of lingual nerve for, 212
Neuritis of brachial plexus, 720
Neuro-retinitis, with blindness, 105
New Hampshire State Medical Society, 25
Newton, etiology of malaria, 7
New York Academy of Medicine, 74, 413, 554, 636, 694
    County Medical Association, 14, 449
    State Medical Association, 445, 574, 580, 604
    Surgical Society, 493, 548, 633, 660, 699
Nose, chromic acid in diseases of, 123
Numbness, a form of, 132

OBSTETRICS, aids in, 26
  and gynecology, address in, 561
  antiseptic, 129
  reports on, 24
Œsophageal auscultation, 572
Œsophagotomy, external, 125
  for foreign bodies, 352
Œsophagus, stricture of, operative treatment in, 95, 288
  gastrostomy for stricture of, 460

Ontario-medical Act, 704
Oliver, collapsible tubes for ointments, 154
Oöphorectomy, 469
  for uterine tumors, 384
Ophthalmia, sympathetic, 57, 107
Ophthalmology, antiseptics in, 209
Opinion, superannuated, 291
Opium habit, 332
Optic nerve, atrophy of, from myxœdema, 100
    electrical reaction of, as diagnostic means, 377
    hereditary atrophy of, 106
    swelling of, 109
Orbit, abscess of, 107
  tumors of, 106
Orchitis, malarial, 158
Orgasm, venereal, in women, in locomotor ataxia, 435
Osler, Dr., 161, 223, 292, 403
  farewell honors to, 445
Osteitis, articular, of knee, new splint, 90
Osteo-arthritis of ankle-joint, removal of astragalus for, 67
Osteo-myelitis, acute infective, 290
Osteotomy for genu valgum, 490
Otitis, acute, atropine in, 238
Other lands—other customs, 354
Ovarian tumor, 337
Ovaries, removal of, 315
Ovariotomy, early performance of, 386
Ovary, dermoid cyst of, 468
Oxalic acid, secretion of, 362

PACHYDERMATOCELE, 92
Packard, the new cervical needle, 616
Palate, soft, syphilitic ulceration, 329
Pancreas, cancer of, 157
  resection of, 223
Papayotin, 378
Paracentesis thoracis, new procedure, 606
Paraldehyde, administration of, 94
  in mental disorders, 514
Paralysis from necrosis of labyrinth, 103
  infantile, resection of muscles in, 10
Paris, United States inspector in, 704
Parks, ignipuncture in tuberculosis of bones and joints, 227
Parovarian cyst, removal, 584
Parvin, report of obstetric department of Philadelphia Hospital, 47
Passengers on sea, medical and sanitary interests of, 691
Pasteur's hydrophobia experiments, 123, 236
Pasteur gone to Brazil, 728
  medal to, 56
  morbific microörganisms and vaccination, 301
Pellagra, 311
Pelvic abscess, 359
Pelvis, fracture of, 486, 550
Penis, fracture of, 571
  inflammation of, in child, 456
  passage of feces through, 212
Pension surgeons, 392
Pennsylvania Hospital for Insane, 112
Peptones, phosphated, in vomiting of pregnancy, 288
Peptonuria, 685
Pericarditis, purulent, tuberculosis of mediastinal glands and, 213
Perimeter, new, 419
Perimetritis, electric treatment of, 388
Perinephric abscess, 23
Periostitis in soldiers, 389
Peritoneum, partial excision of, 338
Persh, etherization by the rectum, 35
  testing for albumen in urine, 680
  treatment of tapeworm, 398
Personalities, professional, 381
Pessary, death from, 430, 434
Pharmacists, female, 71
Pharmacy, Indiana School of, 21
Pharynx, chromic acid in diseases of, 123
  syphilitic ulceration, 329
Philadelphia Academy of Surgery, 80, 110 164, 218, 522, 671, 703, 726
  College of Physicians, 42, 132, 307
  County Medical Society, 47, 72
  Hospital, report of obstetric department, 47
  Neurological Society, 717
  Obstetrical Society, 27, 52, 440, 468, 584, 668
  Pathological Society, 418, 446, 552
Phosphorus in rickets, 66
Phthisis, disinfecting sputa of, 460
  iodoform in, 276
Pia mater, symptom of inflammation of, 572
Pilcher, ligation of femoral vessels, 633
  malignant lymphoma, 700
Pittsburg Obstetrical Society, 674
Pituitary gland, teratoma of, 320
Pityriasis, 30
Placenta, delivery of, 461
  prævia, combined version in, 181
    partial, 52
      Davis's method of treating, 476
  total retention of, 183
Placental polypus simulating malignant disease, 668
Plague, Southern, 692
Pleural cavity, drainage-tubes in, for eighteen months, 496
  disease, resection of ribs for, 399
Plumbing, bad, in Bellevue Hospital, 336
Pneumonia as an infectious disease, 336
  micrococci of, in broncho-pneumonia of measles, 686
Poisons, law regulating sale of, 241
Polycoria, 109
Poor, dwellings of, 500
    hygiene of, 501
Porro-Müller operation, 10
Porro operation, 123, 543, 572, 714
Potash, permanganate, 280
Potassium, bromate, in epilepsy, 718
  bromide, anti-epileptic action, 126
  iodide, masking taste of, 212
  permanganate, its action and uses, 566
Practice of medicine, State law regulating, 528
Pregnancy, albuminuria in, significance of, 385
  chronic heart disease and, 155
  complicated by cancer of uterus, 510
  diagnosis of, in early months, 460
  extrauterine, causing internal strangulation, 210
    cases, 412
    laparotomy after rupture, 160
    operative treatment, 387
  intermittent contractions of uterus in, 384
  tubal, 608
    considered in relation to rupture of the tube, 608
    rupture of sac, 410
  vomiting of phosphated peptones in, 288
Price, forceps as speculum and vaginal protector, 121
Prostatic calculi, causes, 175
  hypertrophy, treatment, 22
  obstruction, section of gland for, 278
    treatment of, 402
Pruritus, 313
Pseudarthrosis of tibia, 291
Psoriasis, 30
Puerperal convulsions, venesection in, 607
  diseases, present aspect of, 409
  fever, carriers of infection in, 126
    cold baths in, 388
    from Vienna standpoint, 179
    in Denmark, 387
  septicæmia, virulent agent of, 215
Pulmonary cavities, operative treatment, 377
    surgery of, 185
  lesions from inhalation of phthisical sputum, 159
Purpura, 31

Pyelitis calculosa, nephrectomy for, 432
Pylorus, divulsion of, 36
  resection of, for cancer, 210, 223
Pyonephrosis, 707
  nephrectomy for, 707
Pyosalpinx, 27

QUARANTINE in Louisiana, 83
  yellow fever and, 614
Quarantines, Government, closing of, 446
Quebec lunatic asylums, 587
Quinine, amorphous borate of, 155
  in suppositories, 212
  in typhoid fever, 538

RACHITIC deformities of lower limbs, surgical management of, 636
Radcliffe, urticaria as cause of miscarriage, 233
Rags, disinfecting, 693, 728
  importation of, 693
Randall, new perimeter, 419
Randolph and Roussel, nutritive value of branny foods, 42
Rectal anæsthesia, 65, 476
Rectum, absence of lower end of, 212
  cancerous extirpation of, 277
  etherization by, 35, 72, 135, 193
  fistule into vagina, 720
Refractive cases, 107
Renal disease, new aid in diagnosis of, 547
Resorcine, formulæ for, 212
Retina, double glioma of, 109
  embolism of central artery, 106
  rupture of, 6
Retinoscopy, 377
Reviews—
  Allen, System of Human Anatomy, 325
  Beard, Sexual Neurasthenia, 217
  Billings, Principles of Ventilation and Heating, 632
  Bulkley, Eczema and its Management, 98
  Ebstein, Corpulence and its Treatment, 518
  Hanks, Physicians' Combined Daybook and Ledger, 164
  Howe, Excessive Venery, Masturbation, and Continence, 132
  Hun, Guide to American Medical Students in Europe, 519
  Hutchinson, The Laws of Health, 248
  Knight, Year-book of Surgery, 356
  Menger; Atlas of Micro-photographs of Pathological and Anatomical Preparations, 72
  New Jersey State Board of Health, Seventh Annual Report, 42
  M. Pasteur—The History of a Savant, 14
  Philanthropos, Physiological Cruelty, 436
  Poutzen, L'Assainissement suivant le systême Waring, 493
  Power, Human Physiology, 355
  Ringer, Handbook of Therapeutics, 98
  Robinson, Baldness and Grayness, 325
  Stillé and Maisch, National Dispensatory, 576
  Sundberg, Health Hints for Travellers, 437
  Whitta, Elements of Pharmacy, Materia Medica and Therapeutics, 164
Rheumatism, acute, rational treatment of, 130
  chronic treatment of, 421
Rhinoscleroma, 171
Rhinelander case, 528
Rhode Island Medical Society, 359
Riberi prize, seventh, 56
Ribs, resection of, for pleural disease, 399
Rickets, phosphorus in, 66
  subpleural pericardial ecchymoses in, 685
Roberts, chronic osteitis of knee, new splint, 90
  ether-death from heart-failure, 345
Rogers, Professor, obituary notice of, 308
  resignation of, 140
Royal College of Surgeons, 280
Rush Medical College, 586

SAJOUS, cocaine in nasal affections, 678
Salomonsen, jequirity infusion, 300
Salpingitis, galvanic current in, 286
Salt solution, infusion of, 572
Sanitation, general, bearing on possible invasion of cholera, 360
  in Genoa, effect of, 643
Sanitary Conference, Australasian, 689
  the Washington, 689
Sarcoma, cellular tissue of ankle, 313
  of skin, 312, 313
Sayre, disease of hip-joint, 113
Sawyer, occipito-posterior position in vertex labors, 438
  treatment of abortion, 634
School for children of defective intellect, 224
Schuylkill River, pollution of, 291
Schweninger, Prof., 532, 634
Science and law, 632
Sclerema neonatorum, 87
Scleroderma, 87
Sclerosis, multiple, condition of axis-cylinders in, 237
Sclerotinic acid in epilepsy, 67
Scrofuloderma, 172
Scrofulosis, relation to tuberculosis, 302
Scrotum, inflammation of, in a child, 456
Sea atmosphere for sick-room, 210
Sepsis, fatal form without symptoms, 440
Septicæmia, puerperal, virulent agent of, 215
Shaffner, rupture of retina and choroid, 6
Shakespeare, cocaine in ophthalmic practice, 508
Shepherd, sarcoma of skin and cellular tissue of ankle, 313
Sherman, management of occipito-posterior positions, 638
Shoulder, resection of, 662
Sick-room, sea atmosphere for, 210
Sigmoid flexure, rupture in newly born children, 155
Simons, laparotomy; removal of cysto-fibroma of uterus, both ovaries and tubes, 315
Sims, bust of, 464
Sinkler, a form of numbness, 132
Sinuses, frontal and maxillary, abscesses of, 172
Skene, frequent miscarriage, 1
Skin, atrophies of, 169
  epithelioma of, 312
  idiopathic atrophy of, 297
  lymphangioma of, 312
  multiple xanthoma, 269
  myoma of, 309
  neoplasms of, 170
  neuroma of, 312
  parasites of, 505
  sarcoma of, 312, 313
  transplantation for restoration of eyelid, 104
Smallpox and the pest-house, 21
  in London, 728
  pustules, diagnosis of, 488
Smith, present aspect of puerperal diseases, 410
  summer diarrhœa of children, 14
Soldiers, periostitis among, 389
  typhoid fever among, 388
Somma, Prof., death of, 504
Specula, glass, danger of, 81
Speculum, obstetrical forceps as, 194
  stop-spring, modification of, 220
Spermatozoa or spermatozoid, 96
Sphygmographic aneurismal tracings as diagnostic signs, 541
Spleen, echinococcus of, 156
Splenectomy, 94, 215, 238, 686
  in the rabbit, 378
Sphenoidal sinus, abscess of, 108
Spondelolisthesis, 67
Sprain, peroneo-tibial, diagnosis of, 184
  treatment by elastic bandage, 183
Stellwagen, cider vinegar in diarrhœa, 166
Sterility, rapid dilatation of cervix for, 558
Sternberg, micrococcus of gonorrhœal pus, 426
Stimson, ligature in treatment of aneurism, 479
Stomach, dilatation of, 187
  ulcer of, hæmatemesis in, 578
    new treatment, 182
Stomatitis, mercurial, 542
Stone, fracture of pelvis, 484
Strabismus, Critchett's operation for, 376
Strangulation, internal, from extrauterine pregnancy, 210
Students, bidding for, 71, 140, 196
Subclavian aneurism, 668
  ligation of, 399
Suicide and its prevention, 70
Sunstroke, 389
Superimpregnation, 716
Suppositories, quinine in, 212
Surgeon-General of Army, report of, 475
Surgeon-General's Library, index catalogue of, 28
Surgery, abdominal, 253, 267
  antiseptic, 26
  conservative, 613
  operative, guiding principles, 477
  report on, 26
Sutton, abdominal sections, 483
  the new cervical needle, 616
Sutures of intestines, 236
  of the abdomen, 214
Sycosis non-parasitica, 29
  treatment of, 212
Synovitis, acute suppurative, of children, 573
Syphilis, bacillus of, 673
  initial sclerosis of, 305
  injections of mercury in, 306
  microbe of, 320
Syphilitic ulceration of soft palate and pharynx, 329
Syphilitics, fractures in, 458
Syphiloderma, 309

TABES dorsalis, hemicrania in, 628
  syphilitic, deafness in, 93
Tænia, fifty cases of, 38
  flavopunctata, 37
Tait, abdominal section, lecture on, 337
    surgery, address on, 253, 267
  American Notes, 645
Tait's operation for suppurating hæmatocele, 208
Talipes, calcaneus, tenectomy in, 97
Tape-worm, treatment of, 398
Tarsus, excision of, 699
Tauszky, danger of glass specula, 81
Tenectomy in talipes calcaneus, 97
Thigh, myeloid tumor of, 718
Therapeutics, medicinal and non-medicinal, 589
Thomas's address, 574
  on obstetrics and gynecology, 561
  six cases of extrauterine pregnancy, 413
Thomson, sympathetic ophthalmia, 57
Thoracoplasty, 329
Thrombosis, puerperal, of femoral artery, 716
Thumb, dislocations of first phalanx of, 609
Thuya occidentalis in carcinoma uteri, 184
Thyroid, consequences of extirpation of, 320
  cysts of, treatment of, 657
Tibial, anterior, ligation of, in compound fracture of leg, 331
Tiffany, ligation of femoral artery, 3

Tissues, diseased, malignant, metamorphosis of, 283
Tonsils, structure, functions and diseases, 413
Tracheotomy in croup, 32
  in diphtheria, 156, 726
  in diphtheritic croup, 694
  in young children, 125
  without a tube, 671
Transfusion, 582
  of blood, 580
Treatment of cystitis, 184
Trephining in mastoid and tympanic disease, 542
Trichiasis, Burrows's operation, 376
Tri-State Medical Society, 357
Tubercles, subcutaneous painful, 301
Tuberculosis, animal, source of human tuberculosis, 304
  etiology, diagnosis, and treatment, 275
  general, relation to tuberculous joint-disease, 610
  heredity of, 302
  miliary, mode of origin of, 13
  mullein in, 276
  of bones and joints, ignipuncture in, 227
  of larynx, local manifestations, 203
  of mediastinal glands, and purulent pericarditis, 213
  of udder of cow, 304
  operative treatment of, 159
  primary, of conjunctiva, 67
    genito-urinary organs, 14
  prophylaxis of, 12
  pulmonary, diagnosis of, 275
  relation to scrofulosis, 302
  treatment of, 275
Tuberculous ganglia, removal of, 457
Tubes, collapsible, for ointments, 154
Tulane bill, the, 55
Typhoid fever among soldiers, 388
    hæmaturia during, 429
    quinine in, 538
    treatment of, 575
Typho-malarial fever, 281, 358
Tweedie, Alexander, obituary notice of, 56

URETHRA, extraction of bullet from, 287
  removal of broken catheter from, 359
Urethromy, external, 287
    perineal, 348
Urinary obstruction, treatment, 22
  test-case, 364
Urticaria a cause of miscarriage, 233
Uteri, procidentia, shortening round ligaments for, 598
Uterine, adenolymphangitis, 387
  appendages, disease, abdominal section in, 337
  canal, rapid dilatation of, 442
Uterine disease, nerve-counterfeits of, 617
  epithelioma, hysterectomy for, 718
  fibroids, gangrene of, and dangers of partial extirpation, 158
    causing kidney alterations, 237
  myoma, 334, 341
  myomata, electric treatment of, 383
    laparotomy in, 383
    surgery of, 379
  segment, lower, 548
  tumor, electrolytic puncture for, 383
  tumors, oöphorectomy for, 384
    removal of, 338
Uterus, appendages, removal for uterine epilepsy, 584
  bifid, 68
  cancer of, complicating pregnancy and labor, 510
  cervix of, hypertrophy of, diagnostic difficulties of, 385
  cysto-fibroma of, removal, 315
  diseases of, abdominal section in, 337
  double faradization of, in perinephritis, 388
  displacements of, Alexander Adams's operation for, 237
  extirpation of, 94, 288, 320
  fibro-cystic tumor of, 440, 441, 442
  hairpin in, 669
  intermittent contractions of, in diagnosis of pregnancy, 384
  inversion of, moot points, 405
  latero-positions of, congenital, 387
  myoma of, 341
  post-partum avulsion of, 656
  removal of, 600
  rupture of, 68, 613
    therapeutics of, 125, 197, 366
  unimpregnated, versions and flexions of, 141, 197, 365, 393, 449, 675
  vaginal extirpation of, 322

VACCINATION, compulsory, 693
Vaginal dilators, glass, dangers of, 135, 392
Vaginismus, 673
  an uncommon form, 602
Valves, mitral and tricuspid, hydrostatic test for, 533
Valvular insufficiency, testing, 706
Vanderbilt's gift to College of Physicians and Surgeons, 463, 528
Van de Warker, versions and flexions of uterus, 141, 197, 365, 393, 449, 675
Verruca, 86
Vinegar, cider, in diarrhœa and dysenteric symptoms, 166
Virchow, forms and causes of hepatitis, 305
Virginia State Board of Medical Examiners, 326, 328
    Medical Society, 326, 356
Visual field, new perimeter for, 419
Vitreous, removal of foreign bodies from, 110
Volume, changes of, apparatus for recording, 362
Volvulus, laparotomy for, 124
Vomiting, of pregnancy, phosphated peptones in, 288

WASHINGTON Obstetrical and Gynecological Society, 476
Water as a diuretic, 124
  -bath, continuous tepid, 587
  Fauquier white sulphur, 357
  hot, in treatment of nervous diseases, 464
  hot, treatment, 528
  waste, proposed remedy, 353
Wedl, Prof. Carl, 308
Weigert, coagulation necrosis 299
Weir, operations on the kidney, 707
Welch, tuberculosis of genito-urinary organs, 18
White, nasopharyngeal obstruction and hypertrophy, relation to hearing, 327
Whittaker, gastrostomy, gastro-enterostomy, 576
Willard, tracheotomy in diphtheria, 726
Wilson, hystero-trachelorrhaphy, 469
  new cervical needle, 586
  portable antiseptic dressing, 727
  Sir Erasmus, death of, 196, 224
Winslow, shortening round ligaments, 598
Winters, tracheotomy in diphtheritic croup, 694
Wisconsin State Medical Society, 54
Women as midwives, 610
Woodward, Surgeon Joseph J., death of, 216
    obituary notice of, 249, 292
Wounds, modern treatment of, 356
  venereal, zinc oxide in, 432

XANTHOMA, 171

YELLOW fever, 56, 112, 139, 195, 223, 250, 446, 588, 644
    and quarantine, 714
    in Havana, 28
    in Mexico, 28, 84, 728
    inoculations, 631
      successful, 615
    precautions, 28, 168
    virus, cultivation and vaccination, 605

ZEISSL, Prof., obituary notice of, 476
Zinc, oxide, in venereal wounds, 432